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# ROCKS and MINERALS

PETER ZODAC, Editor and Publisher  
America's Oldest and Most Versatile  
Magazine for the Mineralogist, Geol-  
ogist, Lapidary.

Published Bi-Monthly

OFFICIAL JOURNAL



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SEPTEMBER-OCTOBER, 1960

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# CHIPS FROM THE QUARRY

## COMING EVENTS

Sept. 25, 1960—3rd Annual Gem and Mineral Show of the Rib Mountain Gem & Mineral Society, Inc., will be held in the Youth Dining Hall at Marathon Park in Wausau, Wisc., from 1 P.M. to 9 P.M. For further information contact Miss Jeanette Zochert, Sec., 1820 Fairmont St., Wausau, Wisc.

Oct. 15th and 16th, 1960 — The Oklahoma Mineral and Gem Society's 14th Annual Show will be at the Women's Building, Oklahoma State Fair Grounds, N.W. 10th St. and North May Avenue, Oklahoma City, Oklahoma. Hamilton Bewley, Chairman of Publicity, 3313 N.W. 62nd Street, Oklahoma City 12, Okla.

Oct. 29-30, 1960 — Silver Anniversary Show of the San Francisco Gem & Mineral Society, Inc., will be held at the Scottish Rite Auditorium, Van Ness & Sutter St., San Francisco, Calif. For further information contact Mrs. Carol Reinecke, Corr. Sec'y 4134 Judah St., San Francisco 22, Calif.

Nov. 13, 1960 — Tampa Bay Mineral and Science Club Fall Rock Show will be held at the Sulphur Springs pool pavilion. Lillian M. Treaster, Corres. Sec., 2103 Seaman Road, Tampa 4, Fla.

Nov. 26, 27, 1960 — The Central Texas Gem & Mineral Society announces the 1960 Fall Rock Show to be held at the Windsor Hotel, Abilene, Texas. For further particulars contact the Show Chairman, A. C. Andrus, M.D., Anson, Texas.

### Romanella's New Mineral Department

R. C. Romanella, 22 West 48th Street, New York 36, New York, has opened a new mineral department and is handling first quality mineral specimens. His office will be open all summer long—stop in while in New York!

### Photo on Front Cover

The photo on the front cover of this issue shows beautiful amethyst crystals in a vein of quartz in black magnetite. Photo is about 1/2 size. The specimen was found in June 1957 at Cape Blomidon, Nova Scotia, Canada. It is in the collection of Robert I. Gilman, White River Junction, Vermont.

Photo by Alfred F. Whiting, Dartmouth Museum, Hanover, N. H.

## MAKE A MEMO OF THIS:

The Mineralogical Society of Pennsylvania announces

### THE 5th EARTH SCIENCE AND GEM SHOW

to be held at

### THE DOYLESTOWN ARMORY

97 Shewell Avenue

Doylestown, Pennsylvania

on

Saturday, September 24, 1960 —

1:00 P.M. to 10:00 P.M.

Sunday, September 25, 1960 —

10:00 A.M. to 6:00 P.M.

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## OBITUARY NOTICE

### JOHN B. C. DILLINGHAM

I am sorry to report the death of one of our prominent collectors, John Brackett Reed Dillingham, of Naples, Maine, who passed away in Portland, Me., on May 12, 1960, after 3 months illness.

He was widely known and liked by all—always with a cheerful word and a pleasant smile. His little museum had a very fine collection of minerals.

Charles F. Marble

### CHARLES CLORAN

Beverly, Mass., July 16, 1960. Charles Cloran died suddenly today of a heart attack. He was only 42 years old. He was Treasurer of the North Shore Rock and Mineral Club; his wife, Edna, is the official photographer of the Club. Mr. Cloran will be greatly missed by all. He was an avid collector and had a fine collection.



## THE CANAL ZONE GEM AND MINERAL SOCIETY'S FIELD TRIP - TO PANAMA'S PERLAS ISLANDS DECEMBER 5 & 6, 1959

By VADA PENCE & BOB STEWART — Photos by VADA PENCE

BOX 629, BALBOA, CANAL ZONE

The "Argonaut" departed from Pier #20, Balboa, C.Z., on Saturday morning, December 5, 1959 at 5:40 A.M. with the following "rockhounds" aboard: Marjorie Tilley, Joseph Tilley, Dave Shoup, Lydia Czapke, Guy Thomas, Ruth Ewing, Sumner Ewing, Bruce Morrow, Tom Sellers, Bob Stewart, Vada Pence and Sgt. John Chiles. Aboard also were Claude Corbin and Wells Wright who were interested in fishing and shell collecting.

After the farewell waves to wives, husbands, and families, all seemed to be in good spirit. At this point the sun came up, bursting its way through a cloud, thus offering the camera fans an excellent opportunity for making color slides. This they took advantage of and had themselves a field day.

Soon after passing Taboga, an island noted as a summer resort, a large school of Porpoise was spotted all around the boat. Many other fish were seen also and at 8:30 A.M. Mr. Corbin landed an eight-pound Bonita. Coffee Break! Yes, everyone enjoyed coffee and rolls and fortunately "Mareo" (Spanish for seasickness) did not bother anyone too much. The last part of the trip was somewhat rougher than the first but taking into consideration everything else we had a good trip over.

We dropped anchor at "Senora Island" (one of the Perlas) at 10:30 A.M. and a few minutes later most of us were on the beach picking up everything in sight. Pretty soon we learned that we couldn't take them all so we sorted our collection and kept the choice stones. On this island we were greeted by three natives, all men, who informed us that they were the only residents there. Wonder why they call this island, Senora?

At 1:00 P.M. we boarded the boat and headed for "Pedro Gonzalez" Island

(another of the Perlas) arriving there twenty minutes later. After sandwiches and cold drinks we went ashore and combed the beach for more stones. These were not hard to find and we had a field day. Here a number of native children joined us in our search for rocks. Some of them had a few shells to sell and one had a bird of the "Humming Bird" family. Mrs. Tilley bought the bird for ten cents (10¢) with the intention of releasing it later but Lydia Czapke adopted the bird and lavished it with tender care until we returned to Balboa.

Upon our arrival at the third beach we combed the area thoroughly. The native children followed us around and after watching us for awhile and wondering why we were tasting the rocks they started breaking open the clear agate also and licking them. Evidently when they discovered the stones had no taste they decided the Americans were crazy. They had a good laugh among themselves and willingly helped us pick up the stones.

Late in the afternoon we returned to the boat and had a delicious dinner of charcoal broiled steak, celery, green peas and potatoes. The food committee did an excellent job. After dinner we had a gab-fest followed by harmonica selections by Bob Stewart and Claude Corbin, this was accompanied by the snores of our President, Tom Sellers. While enjoying this rest period a visitor from a nearby island appeared beside the boat sporting a "Fidel Castro Beard" which caused us to wonder if the Cubans had landed! He had some coral which he wished to trade for a fishing line but since we had no extra line he decided to give the coral to the best looking women on the boat. He

refused to accept money stating that he did not need money on his island as it only caused trouble. Lydia Czapek and Mrs. Ewing got the coral and they gave him cigarettes in return.

Earlier in the afternoon arrangements were made with two natives to come back at 12 midnight to row us to the beach for shell hunting and promptly at midnight the two young men reported to duty. Lydia Czapek, Bob Stewart, Bruce Morrow, Wells Wright and Vada Pence searched the rocks for shells until approximately 2:00 A.M. A variety of shells were found. While preparing to leave "Pedro Gonzalez" Island, the line fouled in the propeller of the boat. Skin divers, Bob Stewart and Sgt. Chiles, did a quick job of getting it cleared.

The last trip ashore for rocks was a toss-up to which place to go but while eating breakfast Sunday morning we saw a beautiful rainbow which ended on the Island of Pedro Gonzalez so we set out to look for the "pot of gold" and we found some beautiful "nuggets" (minerals).

The Perlas Islands are a reminder that this area was once in a turmoil and that active volcanoes were spewing forth their hot lava rocks into the sea. Today we see these reminders of past volcanic action in the numerous sea cliffs cut in the columnar basalt flows. They remind one of

the pictures of the Giant Causeway of Ireland. Here in the Perlas Islands they look like giant piles of fence posts piled neatly in some places and in a twisted random fashion in others. Along with these flows were others which contained bubbles at the surface like a bottle of champagne when broken. Here the bubbles froze and the lava cooled and later volcanic activity with its mineral laden hot waters filled these bubbles with agate. Some of the bubbles were not completely filled and became little geodes or crystal lined cavities. Others were completely filled and formed small tear drops of milky agate often containing an iris pattern or a turtle back pattern.

These little reminders of past volcanic activity were later liberated by the action of thousands of years of rain and the action of the waves of the sea. Those which were released from the land became tinted with red and became brilliant red carnelian. They are here waiting for such as we to come and see. A true pot of gold for any rockhound.

The return trip started about 9:55 A.M. and the water was rather choppy but Mr. Corbin fished most of the way and caught several Bonitas, Mr. Thomas wasn't feeling as "chipper" as usual. The Tilleyes and Sellers spent most of their time on the fantail of the boat. Lydia Czapek spent most of her time gazing at



Dave Shoup gathering rocks on "Pedro Gonzalez" Island.

her new possession (the bird) who rode all the way in a tupperware canister. She reported that the bird took honey water several times during the five hours we were at sea. Twice during the return trip when the water was especially rough Sgt. Chiles, Bruce Morrow and Bob Stewart had to rescue the precious cargo of rocks which was on the bow and was in danger of slipping off.

The water was considerably smoother after we passed Taboga. Mrs. Tilley and Mrs. Ewing pulled a delicious lunch out of a hat and we ate heartily. At 2:55 P.M. a tired but happy group arrived at Pier #20. We lugged our gear and rocks ashore and each one departed to his home with the parting words, "Next time."

**Editor's Note**—Perlas islands (Pearl Islands) are a group of small islands in the Gulf of Panama, 60 miles southeast of the city of Panama. It received its name from its extensive pearl fisheries.

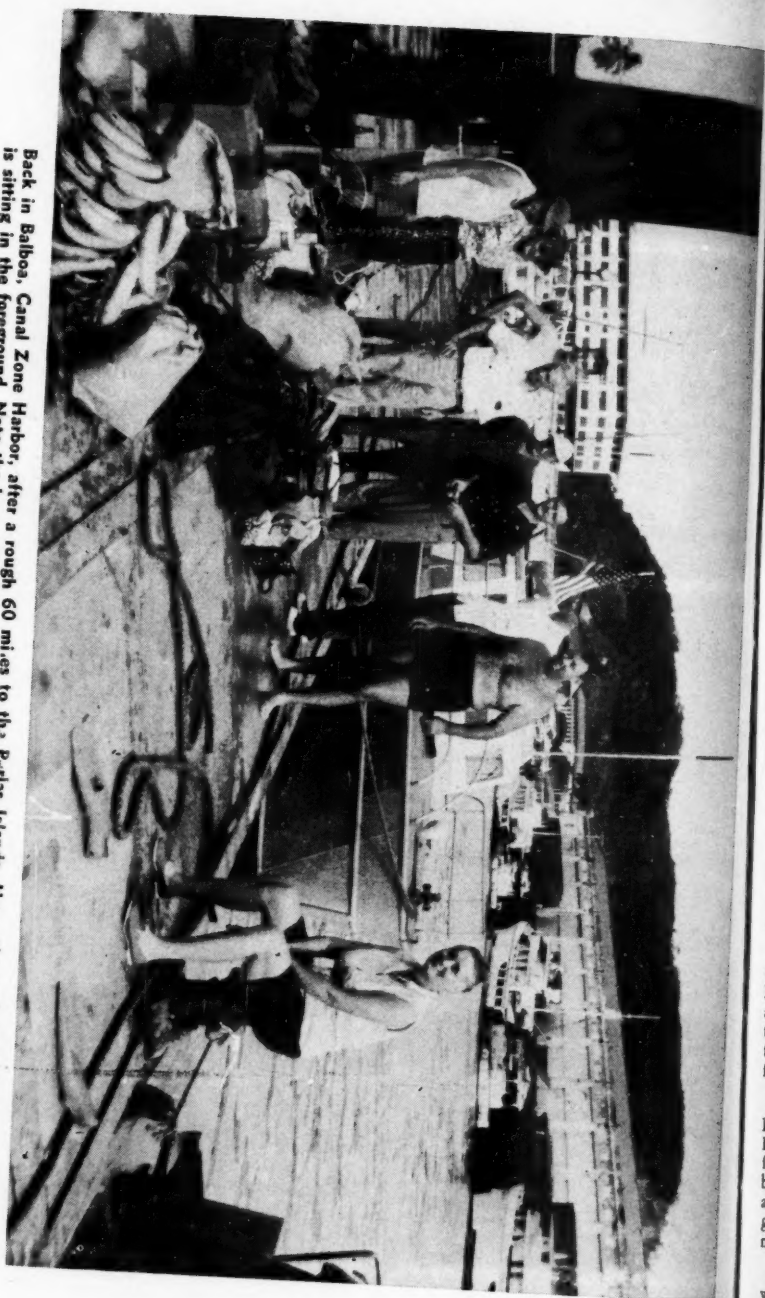
A letter, dated March 4, 1960, from Thomas L. Sellers, President of the Canal Zone Gem and Mineral Society, reads:

"This is a wonderful country for almost any and all hobbies. The fishing is tops, while the jungles abound with wild game for good hunting. We have a couple of species of wild pig, deer, canejo, ducks, wild turkey, several species of wild cats and many other animals. Golfing is good, along with trap and skeet shooting, boating, water-skiing, etc. You have an invitation to pay us a visit any



Guy Thomas and Sumner Ewing look over a nice agate specimen on the return trip to Balboa, while Claude Corbin smokes his cigar and waits for a fish to strike. The waters in Panama Bay abound with Snapper, Dolphin, Sail, Bonita and many other game fish.

Back in Balboa, Canal Zone Harbor, after a rough 60 miles to the Pearl Islands. Here, the author, Veda Pence, is sitting in the foreground. Note the bags containing rocks on the pier. Sgt. Chiles, skipper of the "Argonaut", is the big Texan in shorts.



time that you see fit and can spare the time so that we may show you some of our way of life away from the comforts of the good old USA.

"Now, I will try to answer some of your questions. We are members of a very young club and do not know all the answers, nor do we know about all the minerals that may be found here. The ones who made the field trip to Pedro Gonzalez Island are primarily interested in cutting and polishing material and not in identification and collecting. We did, however, find some calcite of the Iceland Spar variety, clear and colorless. Calcite has been found of the pink variety and I believe that we have some that is of bluish color. Rock crystals are found in limited quantities and are small. Our best material is agatized wood, moss agate, agatized and petrified coral and jasper in all colors.

"We had a visitor at our last meeting, the fourth Friday in February, a Mr. Byron, who told us that he had never seen so much material any place as we have here for the serious micromount collector. He stated that he had advertised in most of the magazines devoted to the Rockhound and for many years had been a

dealer in micromounts. In two trips out and in just an hour, or two, I have forgotten how many minerals he found that he was very interested in and intended to take back to the states. So, you see that there are possibilities we have not discovered yet.

"The banded agate that we found on the trip is of the gray and white type. Not much is as colorful as the Brazilian varieties that I have seen, although, a lot of that I understand has been dyed. The small pebble forms that we found are almost all of the milky-white type but are very beautiful when polished, showing a bluish-white sheen. As for sand, we will send some samples at a later date. There is not a sand collector in our club at the present time. I know that we have a black coarse sand here that is attracted to a magnetic force, which might be of interest to some of your readers.

"Pedro Gonzalez Island is very small, being an estimated (by me) two miles wide and, possibly, three miles long. It is only one of the Perlas Group, of which there are several Islands, some larger, perhaps, and some smaller. They belong to the Republic of Panama."

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## A GUIDE TO GOOD COLLECTING!

Editor R&M:

Last July it was my pleasure to spend several days with one of your advertisers, Mr. Roy Snyder, whose "Adirondack Cabins" are located on route 9, just north of Chestertown, N. Y. My acquaintance came about through my inquiry in answer to his "Classified Ad" in R&M magazine.

In addition to being an enthusiastic "Rock Hound", Roy is a licensed Adirondack Guide. I decided that since I had planned my trip for many months in advance, I would not be "Penny Wise and Pound foolish", so in addition to staying at his establishment, I engaged his services as a guide on several afternoons. It was money well spent.

Because of his knowledge of local areas, I was enabled to visit many collecting locations that I would have missed altogether, and get

to other spots that would have taken me many fruitless hours to locate by myself. We went into a new road cut near Newcombe, N. Y. and came out with sphene, chalcopyrite, phlogopite, several varieties of calcite, augite, blue apatite, tourmaline, graphite samples, and others.

In one afternoon we visited the North Creek area, where I obtained Gore Mountain garnet materials, Duodecahedrons from the Old Hooper mine and a pile of beautiful stuff from Ruby Mountain. Under his supervision I also was able to locate a fair amount of labradorite. My collection grew, my store of knowledge increased, and I have another gem in my collection of wonderful experiences.

G. Van W. Stivers  
P. O. Box 382  
Riverhead, L. I., N. Y.



## "KEWEENAW—COPPER COUNTRY"

By JOE ROTHSTEIN

255 West 84th Street, New York 24, N. Y.

Keweenaw! in the land of the sky blue water where the Red Men came for the rose colored metal long before the first rock collector bumped into Plymouth Rock. This beautiful peninsula of rolling hills and dark green pines, bordered by sand dune and pebble beaches juts out into Lake Superior a short day's ride west of the Mackinaw Bridge. In all the rugged beauty that makes up Michigan's famous Upper Peninsula, it is this thumb of land at the northernmost tip of Michigan that has drawn men back through generations. One authority has even the Phoenicians coming here; but there is no question that the Indians came, heated the rocks, doused them with cold water, and prayed to the Great Manitou that the native copper would be exposed. Afterwards came Paul Bunyan to hew the timber and then the miners to rip out the ore with iron tools. Everyone in the Upper Peninsula calls it the "U.P." with affection. In summer it is a paradise and even when they speak of the harshness of the winter there is an underlying tone of admiration. When you see, as I hope you will some day, the deep sapphire blue water up near Grand Marais fade in the early evening and the flare of the dying sun light up the agate beaches, then you will know why this finger on the waters lures the rock collector.

The beginning was a simple one in the Spring of 1959 when Ruth, my "ever-loving" said she had never been to the Midwest, and why don't we go there instead of New England. I said, "Where?", and she said, "Michigan," and I said, "Yes." There was just one more meeting of the club left before the summer hiatus and I went to the May meeting of the New York Mineralogical Club in full expectation of getting leads to any number of locality. The paucity of information was amazing, and this is the best club in the country as well as the oldest. There are some 15 min-

erals named after club members, and another 75 which owe their presence in Dana to the group, so if any reader wants to give me an argument, he better come well stocked with facts. In any case, the "yes" was registered with constituted authority, and even if the Sahara had shifted north of Detroit, I was still committed. Inquiries to clubs in Michigan were not even promising until I heard from Ishpeming in the U.P. near the iron ore shipping port of Marquette. They named goethite and jasperite but much more important there was an emanation of enthusiasm from the letter. This, I said, is where we head for and I wrote back to Bob Richards, the principal of the high school in nearby Negaunee, to expect us on Monday, the 10th of August. I would bring my slides, my Herkimers, my curiosity, my sharpened chisels, and even a little gnome in the car trunk for the tough digging.

Copper Harbor at the very tip of Keweenaw where Brockway Mountain falls off abruptly to form a cup in the water that made this into a mining port was to be our ultimate destination. This spot is some 1600 miles from Times Square (New York City), and we live only 15 minutes north where Broadway is still called downtown. Diving into the Lincoln Tunnel under the Hudson River (vehicular tunnel between New York City and Weehawken, N. J.) on August 2nd, and heading west we made a few plans to fill in the gap. We took our time through the mountains of northern Pennsylvania, stopping off to see the deep ravine at Wellsboro that is Pine Creek Gorge or the Grand Canyon of Pennsylvania, depending on which Chamber of Commerce you represent. In any case the slight detour to the lookout point on the eastern lip of the deep cut was worth the trip. We called the Harold Heeleys in Cleveland, Ohio, (they list themselves in ROCKS AND MINERALS) and spent a



typical evening in another part of the world where the "pastures are always greenest." This time it was immense groups of calcites and fluorites. The hospitality was overwhelming, the swapping was generous and altogether it was delightful. Cleveland was reputed to have quite a collection in its new Museum of Natural History, but only a small portion of it was yet on display. The curator there told me not to miss the Cranbrook Institute of Science, north of Detroit, Mich., and this made up for my disappointment. This is a gem of a collection, and it was here that I discovered that from a mineralogical and collecting standpoint, Michigan belonged on the map.

We next turned the nose of the car North and headed for the Straits of Mackinac. In Charlevoix on Lake Michigan I saw a half of a large pebble that was exquisite ribbon agate in a gift shop window and moseyed inside. The agate was actually put there as a lure for collectors, and we had quite a chat ending up with directions where I could find Petoskey stones about a mile north of town. Thirty minutes later I was at the spot and for the next hour I scoured the beach without a nibble. I walked back to the car in disgust, and there, not two feet from the front fender, with the stones all shiny and grey from the rain, was the place! In a manner of minutes I had collected a bagful of these fossils. Instead of the coral turning into agate as in Tampa, Florida, it had turned into limestone. The stones therefore have a hardness of 3 and polish easily and nicely into lovely geometric patterns. I have gotten the whitish concealing outer layer off by using a medium grit paper and a little elbow grease. I don't know where the Petoskey stones are in Petoskey, but I sure do know where they are in Charlevoix, Mich.

As a boy I grew up where the Golden Gate Bridge now casts its shadow, and later in New York I watched the towers of the George Washington Bridge rise out of the Hudson River to reach my apartment house window, so I was pre-

pared to be unimpressed by the Mackinaw Bridge. However, this high span over the waters is an awesome stretch of steel and concrete and is truly a wonderful and graceful structure bridging the straits that formerly halved Michigan. Crossing the bridge we found ourselves in the U.P. and while this was still Michigan, there is a subtle change. This is hunting, fishing, and mining country—the pine needles are springier, the whitefish sweeter, in the waterfalls where white water should be tumbling there courses something that looks like rootbeer, the raspberries are boundless, and lying now between Lake Superior and Lake Michigan, the breezes blow softly and coolly. And yes, the waters are always deep blue. Sometimes cobalt, sometimes cornflower blue, sapphire, and most often bright, shining, sky blue. As I said before, I understand in the winter things are a little different, but in the summertime, this is where to go. Before you cross the bridge there is a State operated information booth at Mackinaw City. Here I picked up the "Tourist Guide to Marquette County" which has a section on minerals, including maps and a list of collectors. This is recommended reading for anyone visiting the U.P. with chisel and Estwing. Going west we found the highways good and the speed limit a generous 65; so we did not even stop to sample the wine of the country, which in this case is the pasty the miners dote on. Eventually we sampled this delicacy and don't tell anyone from the U.P., there is better eating anywhere even if it turns out to be only a three cornered meat and potato pie. Just say you loved it! However, that night we were ensconced in the Mather Inn in Ishpeming and this for comfort and cuisine I recommend. This particular inn was the headquarters for the film company on location when the "Anatomy of a Murder" was shot in Ishpeming, and so maybe I slept in the same bed Jimmy Stewart had occupied—but this still wasn't finding me any goethite.

The next morning Bob Richards called for us and we went to Jasper Knob

which is on the outside rim of the town. The top of this hill seems to be comprised of nothing but banded layers of hematite and red jasper and the area appeared to be at least a quarter mile square. They tell me it polishes quite nicely. We took pictures and then dropped down the hillside to the home of Joe Collick, a retired miner. If you want specimens from the local mines, he has it. He also has an exhibit in the Chamber of Commerce information booth in Marquette, and you can also pick up the Marquette Guide there if you miss it in Mackinaw City. Joe Collick gave me a piece of peacock ore and some specularite. It broke Joe's heart to find out I was a pebble polisher at heart and would not weigh down the car with iron ore.

That afternoon we went out to photograph the iron ore docks near Presque Isle Park a few miles west of Marquette, Mich. After seeing so many pictures in so many books, I still got a kick out of the huge loading platform where the railroad runs out over the water and dumps the ore into the long freighters that head east for the locks at Soo and then on down to Gary to eventually wind up in your car and mine. Presque Isle Park comes complete with picnic area, tennis courts, and a zoo among other things, and we spent a little while there. Idly shifting pebbles on the shore near the breakwater while Ruth was taking a breather, I found two purple banded agates. As usual these two turned out to be the best of the trip. There is one wonderful thing about the U.P.—the minerals occur in the most scenic places. The location is known to the Ishpeming Club and they publicize it but they admitted to me that it was no world beater. They were surprised that I had found a couple of good ones.

That afternoon, late, we dropped in to see Hetty Hawes in Ishpeming who has the collection of her late husband, set up in modern cabinets, artistically displayed, and specially lighted. The botryoidal specimens of ore were amazing, and for an all around collection, this

was one of the best anywhere. Mrs. Hawes took me over to Champ Levin's house, who was not going to be at the meeting that night. Here I got my geothite and native copper. By this time the best of my prehnite and Herkimers were gone, but I felt I could go home happy even if I found nothing in Keweenaw. Incidentally, later I found out that prehnite is found in Keweenaw, but it is nothing like the tremendous pieces we find in the trap rock quarries in northern New Jersey when we get lucky. That evening I showed slides of Eastern localities to a meeting of the Ishpeming Rock and Mineral Club, made more friends, and rounded out a day replete with everything that a mineral collector could desire.

Finally, we were on the last lap of the trip—the copper country of U.P. itself. Coming into Houghton on a back road we saw our first dump of reddish basalt. It was hot and we were hungry so I just took a fast look. There were red and white massive calcite, small epidote crystals, and some specimens of native copper that I found immediately. Maybe others have had different experiences but in Keweenaw you sweat for your native copper or buy it from a going mine. Don't expect it to jump out of the ground into your sack—take at least a three pound single jack along and bust some rock. Incidentally, take the main highway into Houghton and stop at the Michigan School of Mining and Technology first, which is something we did not do. Here you can get an idea of what you can find if the Gods are with you. Leaving the twin city area of Houghton and Hancock you are immediately in copper country. Kids are hawking native copper on the hill just north of the town, but once past this manifestation of tourist enterprise, you are in a lovely land of green pastures, woodlots, grey weather-beaten mining ghost towns, thimbleberry jam, and always the blue waters of the lakes. That night we stayed in Eagle Harbor and broiled filet mignons over a charcoal fire on a rock point edging out into Lake Superior.

Now just so that I am not making everything look too good, the tourists outnumber the agates five to one. Also, if you were to ask my wife, the flies outnumber the tourists a thousand to one. According to the natives though, the flies just happened to be unusually bad that particular year—no one could ever recall such a situation!

At Eagle Harbor, Mich., there was a local craft show and I met two lapidaries—both women. The best agates I saw here were banded in soft pastel shades of purple and pink. There were some with eyes. Definitely, the Lake Superior agate has a character of its own. Also there is an "Agate Shop" in this little village and that night I swapped a tremendous slab of prehnite for a specimen of native copper that had been given an acid bath and looked like copper should look. This was the last of the prehnite and I had not brought this piece along to swap, but just to show. Anyway, we both figured we got the best of the deal which is as it should be. Eagle Harbor is an old village and restful and we made it the base of our operations even though its agate beaches were not exactly brimming with color. Next morning we took the famous Brockway Mountain Drive and so our first view of Copper Harbor was an aerial one from the summit of the mountain. The local people speak of the town as commercial, but then they haven't any standard of comparison. At the height of the season when we were there, it struck us as being uncrowded, quiet, and while you can't use the term unspoiled for a vacation area, it definitely was not a "tourist trap" town. There are several places in town where you can buy agates and minerals, but if you are a lapidary go see Markham who runs the Shell station. We had stopped for gas and Ruth had seen a case of stones on display. He is an amateur but what a cutter! He has donated to several museums and has an especially fine collection of "Green Stone" or chlorastrolite. This is a green fibrous mineral which weathers out in smooth rounded pebbles in this

vicinity and "Kraus and Slawson" say it is related to our more familiar prehnite. However, green stone is chatoyant and has patterns so that I can see where it would be fascinating to the local collectors. The hardness is around five or six so that it could be used in all types of jewelry. Markham also had agates and agates and agates, but in his case, big ones. From what he told me, he evidently knows where the terminal moraine dumped the good stuff and he sets up a series of crosscut trenches and goes after something you can slab. Between his gas station and his restaurant, he is a busy man in summer, but he did take time off to show me some of his private collection in his home. There are several cases on display in his small restaurant also, and as I said, this man takes a back seat to no one. Another unique local stone in this region was datolite, and this, like good specimens of greenstone, you do not just drop around, scratch a little and find. For both of these stones you need an eye for it in the rough and there is no substitute for being familiar with a locality. Michigan datolite is not the familiar eastern kind from the trap rock quarries at Bound Brook, New Jersey, or Westfield, Massachusetts, which are glassy monoclinic crystals and which to me have the dull luster of whitish calcite. This is massive datolite and comes in soft tones of green, brown, very attractive red, and is often mottled with copper inclusions. It polishes beautifully and has a hardness of five to five and a half. No one was giving this away at all! However, a girl named Judy in one of the local motels and gift shops, had a raft of them and very graciously brought them out for me to take pictures.

At Copper Harbor, Mich., there is a restoration of Old Fort Wilkins which has a room devoted only to copper ore. Spend a half hour in this room and you find out that at one time Michigan was not only the timber capital of the United States in the middle of the last century, but also pretty much the national leader in the way of metal. What are now quiet

fishing villages were once lusty, bawdy shipping ports, and where deserted mining towns stand in ghostly silence there was once the shrill screaming of turning winches as the ore came to the surface. Before I left Keweenaw I found out one more thing. If you want to find agates you go to the beaches that are inaccessible. The point some five or six miles east of Copper Harbor seems to be one such. You either tramp through the woods or you row up in a boat from Bete Gris. Another thing about Keweenaw that I should tell my friends of the Eastern Seaboard, there are giant raspberries that are found here that are not raspberries but thimbleberries. An associate of mine in New York had told me about them so I was not surprised. Evidently they are found nowhere else. The sad part is that they do not taste like raspberries and are not just tart, but puckery tart. Sweetened up into a jam, it is a local delicacy and jars are sold at roadside stands along with beach pebbles (in jars of water to bring out the color) and copper specimens.

Regretfully, we left Keweenaw, and drove South. Perhaps it was just as well as we ran into a spell of rainy weather and it made it a little easier to tear our selves away. We stopped off in Houghton at Michigan Tech. The museum here is really a working collection for

the college and in point of size it approaches the collection in the New York Museum of Natural History. Leave yourself at least a half a day to see the collection. I understand that sometime in 1960 the Ishpeming Society is going to be host to a meeting of the Midwest clubs that will include field trips to the Copper Country in which the college will participate. It always happens to me—I am too soon or too late and usually the pocket is always cleaned out.

A last word of caution for the eastern reader. I saw a bear or two but only at the advertised bear pits. These are town garbage dumps where you sit in the car, enjoy the "smells" and wait for the bears. However, deer crossings are not posted like we do on the Eastern parkways so watch out. Heading south that day toward Wisconsin, a deer crossed the dirt road I was on about a quarter mile ahead. I slowed up and right at that spot I almost smacked a second deer. We both stopped and looked each other over and he turned and ran back into a little glade and looked over his shoulder at me for a full minute or more. Then he flirted his backside at me, as good as told me to go home, and bounded off into the woods out of sight. I figured we'd better go home.

### ALL WE CAN DO IS OUR BEST!

Editor R&M:

Please cancel my subscription to **ROCKS AND MINERALS**.

While R&M remains by far the best medium for advertisements concerning the hobby, the quality of many of the articles is low indeed. If I may itemize: the Women's Page may be nice and friendly, but on the whole it has nothing to do with mineral collecting; the sand collector, with its emphasis on the human - rather than the geological - interest

of the locality, falls far short of its serious potential; the World News too seldom gives collecting localities or hints, but concentrates instead on an attempt to name as many localities as possible.

I know that your job is to sell R&M, and not to provide a serious journal, that you work very hard to put out the magazine; I wish you the best of luck, and I will try to send you items occasionally, but I do not wish to continue my subscription.

A disgusted subscriber from New Jersey.

# SPESSARTITE GARNET WITH HEXOCTAHEDRAL FACES FROM JAIL HILL, HADDAM, CONNECTICUT

by  
David M. Seaman, American Museum of Natural History  
and  
Robert P. Gallant, Moodus, Connecticut

On April 23, 1960, while collecting specimens of garnet from a small pit on Jail Hill at Haddam, Connecticut, some tiny garnet crystals were found by the senior author showing very unusual crystal faces. These microscopic garnet crystals occur within small vugs and along seams in massive garnet, and also in a zone near the contact of the garnet with mica schist.

The massive garnet was first thought to be grossularite due to its brownish-orange color. Although most of the massive garnet is of this color, the small crystals which range from microscopic up to a half of an inch in diameter are of a brighter orange-red color. The presence of rhodonite in association with the massive garnet suggested that the garnet might be of the species, spessartite, rather than of grossularite and such it proved to be. Dr. Brian H. Mason of the American Museum of Natural History checked the massive garnet optically and its index of refraction was found to be  $1.79+$  plus rather than  $1.74$  for that of grossularite. The index of refraction on small crystal faces of the garnets was checked also on a refractometer which gave  $1.79+$  for the index in excellent agreement with that for the massive garnet. An X-ray powder photograph was taken for final verification and it is identical for that of spessartite garnet in our identification file.

sartite garnet in our identification file.

Most of the small spessartite garnet crystals show the trapezohedron as the dominant crystal form modified by the hexoctahedron as shown in figure 1. Some of the garnet crystals show the trapezohedron modified by both the hexoctahedron and the dodecahedron as shown in figure 3. Here the dodecahedron faces are very small. A number of somewhat flattened crystals show a partial development where hexoctahedral faces modify the trapezohedron in one or more positions and the dodecahedron modifies the trapezohedron in other positions on the same crystal as shown in figure 2. However about seventy-five per cent of the crystals found show the development as shown in figure 1.

Dr. A. Pabst in his paper on "Large and Small Garnets From Fort Wrangell, Alaska" in the AMERICAN MINERALOGIST of 1943 noted that this rare form, the hexoctahedron (321), had been cited as having been found only three times on spessartite garnet up to that time. This would indicate that the spessartite garnets of Jail Hill are quite unique in their occurrence and are destined to add still another locality to the list of famous Connecticut mineral localities.

This new spessartite garnet locality stresses the possibilities for other new

Figure 1



Trapezohedron  
modified by the  
Hexoctahedron

Figure 2



Irregular development  
of Hexoctahedron and  
Dodecahedron modifying  
the Trapezohedron

Figure 3



Trapezohedron  
modified by the  
Hexoctahedron and the  
Dodecahedron

finds in this prolifically mineralized area in Middlesex County, Connecticut. The famous Gillette Quarry at Haddam Neck, the old (lost) chrysoberyl locality near Haddam, the Slocum Quarry near East Hampton with its fine golden and aquamarine gem beryls, the new Mt. Tom beryl locality at Moodus, and the recently found Turkey Hill beryl localities near Haddam are all found in this important mineralized area.

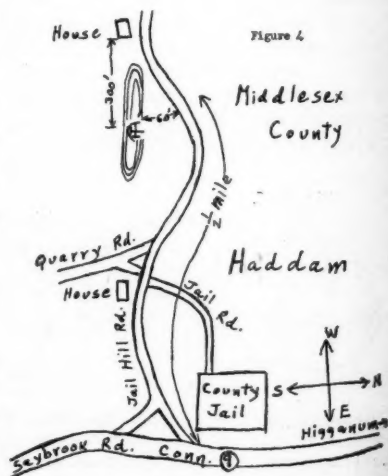
Figure 4 was prepared by the junior author to show a map of the immediate area with the directions for finding the spessartite garnet pit. You will notice that it is located just off of Connecticut Route 9, and one half mile from the county jail in the small village of Haddam, and along Jail Hill road. Haddam is nine miles south of Middletown, Connecticut, on the west side of the Connecticut River. In the fall you can easily find the pit, but in the summer it is quite well hidden by the foliage of trees.

Garnets on the whole conform well to the Donnay-Harker law of crystallography which requires that the order of importance of the forms shall be (211), (110), (321), (100), (211), (332) etc. On spessartites, the trapezohedron (211) definitely predominates and so they show the best agreement to this law.

The Jail Hill garnets show a combination of the trapezohedron (211) (24 faces), modified by the hexoctahedron (321) (48 faces) and also sometimes with the dodecahedron (110) (12 faces). Thus in perfect development they show either seventy-two, or eighty-four crystal faces if the dodecahedron crystal faces are also present. However since the crystals are attached to massive garnet they are never completely developed unless as in a few cases they are completely embedded in quartz.

A few of the dark red spessartite garnet crystals in the rhyolite of Nathrop, Colorado, show the trapezohedron modified by small dodecahedron faces. Red spessartite garnets in rhyolite from the Thomas Mountains of Utah and near Ely, Nevada, show the simple trapezohedron crystal form. Light orange-col-

ored spessartite garnets found embedded in lepidolite at the Harding Mine, Taos County, New Mexico, also show trapezohedral development of the faces. Fine, orange-colored spessartite garnets from the pegmatite of Rincon, California, show the trapezohedron in combination with the dodecahedron. Spessartite garnets of a deep red color in association with sphalerite, galena and rhodonite at Broken Hill, N.S.W., Australia, generally show the simple trapezohedron but some show the dodecahedron modified by the trapezohedron. Spessartite of a deep red color from Pocos dos Cavallos, Ceara, Brazil, occurs as dodecahedrons in parallelly grown crystal groups. There is a suggestion that the spessartite of Amelia, Virginia, a pegmatite occurrence like the Brazilian one, has also grown as parallel groups of dodecahedrons, though most of the material is massive. Growth lines appear on the Amelia garnet showing parallel, dodecahedral development and a specimen in the senior author's collection actually shows a group of spessartite garnet crystals grown as dodecahedrons in parallel position. The color of the massive garnet from Jail Hill is somewhat darker than at the occurrence at Amelia, Virginia. In general as cited above the dominant crystal form found on spess-





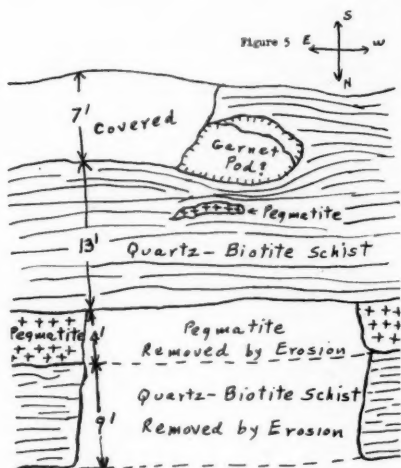
sartite garnets is the trapezohedron.

The geological occurrence of the spessartite garnet at Jail Hill appears to be a pod about five feet in its greatest width and in the material thus far exposed about five feet in length also. One contact is covered so that the actual length of the pod is not known. It is enclosed within a quartz-biotite schist and the schist curves around its western end. See figure 5 for the detailed geology of this cliff exposure. A pegmatite vein four feet in thickness is exposed at the base of this twenty foot high cliff within the quartz-biotite schist formation and in parallel alignment with its schistosity. It is within thirteen feet of the garnet pod. A small pegmatite stringer about a foot in thickness and five feet in length is also enclosed within the schist just two feet below the garnet pod. All of the formations dip into the hill in a southerly direction from about 75 degrees to nearly vertical. The hill strikes in a nearly east-west direction as does also the schist in this immediate area.

The Bolton Schist in which this garnet pod is found is composed of quartz-mica schists, mica gneiss, lenses of amphibole

schists, and beds of quartzite and marble. The pegmatite was probably influential in bringing in the components which formed this interesting pod-like garnet deposit. The pegmatites of this area, as shown by radioactive minerals, were intruded in the late Devonian period so that the Bolton Schist is thus older than the pegmatites. The pod-like garnet deposit was probably formed by metamorphism and replacement, perhaps of a bed of marble, within the Bolton Schist at the time the pegmatites were intruded into this formation.

The mineralogy of the spessartite pod is relatively simple. The southern contact is bordered by a thin zone, only a few inches in thickness, of quartz and biotite mica next to the quartz-biotite schist wall. Some quartz is also present within the massive garnet near this contact. Along the northern contact there is a development of massive garnet with included rhodonite and radiated actinolite, the whole much stained by black, manganese oxides, presumably of pyrolusite and manganite. Exact identification was not possible due to their contamination with garnet. Along the southern



All Formations Dip from 75°  
to nearly Vertical

contact where most of the small garnets occur, some tiny colorless and white apatite crystals were found in small vugs and seams, implanted on the faces of the garnets.

The junior author, while drilling a well in the corner of Quarry Hill Road and Jail Hill Road about three years ago, picked up a piece of the massive garnet. This was shown to Ralph (Pappy) Lieser and Richard Schooner of East Hampton, Connecticut. They, having more time to look around, found the small pit on Jail Hill from which the specimen found on Jail Hill Road had come. Dick Schooner exposed the mass of massive garnet. A few weeks later the junior author went back to the locality for massive

garnet when he exposed the area of small garnet crystals in the back next to the black, biotite mica. Schooner noted the occurrence of the rhodonite in association with the massive garnet and the junior author of the tiny apatites with the garnet crystals. Most of the work done at the locality has been accomplished by Pappy Lieser and Dick Schooner.

The micro-mount mineral collectors now have a choice new area, though a small one, to prospect and search for these unique spessartite garnets showing the rare hexoctahedral crystal faces. It would also appear that the massive garnet should yield some interesting cabochon material to the lapidarist and even perhaps some facet grade material.



A view of one section of the world famous precious opal field at Lightning Ridge, N. S. W., Australia.

Look!—the lone figure in the photo is a girl and the girl is "noodling" (Australian term for mineral collecting). She is Mrs. Francis Hoover, wife of the noted

gem dealer of 11526 Burbank Blvd., North Hollywood, Calif. The Hoovers visited the opal field in 1958.

Lightning Ridge has been famous for many years as the home of the Black Opal—a rare gem of exquisite beauty.

## A NOTE ON MUD CRYSTALS

Editor R&M:

I note in the May-June number of R&M that Mr. John J. Klunk is somewhat perturbed over the matter of "Mud Crystals". Of course, there is no such thing as pure mud crystallizing. There must be some mineral present in the mud in sufficient quantity and under the proper conditions to crystallize, absorbing some of the mud within the crystals. Carbonate of lime is the chief agent in this peculiar operation.

It might shed a bit of light on Mr. Klunk's problem if I were to tell of mud crystals that have been found in the vicinity of Joliet, Illinois, where the underlying rock is a thick dolomitic limestone of Silurian age, in which solution pits frequently occur, much to the annoyance of the quarrymen.

These solution pits represent ancient "sink holes" that long ago ceased to be active and are now filled up. From a geological standpoint, the material found in these filled pits is fraught with much interest, as much of the geologic history of the region may be deduced therefrom. Most of the pits are filled with clay and fragments of country rock. In some of this clay-filling material fossils occur, and

it is quite possible here to collect fossils of the Devonian age in a quarry from which Silurian rock is being removed. A novel experience, since the nearest Devonian strata is something like seventy miles distant from the area. Also, a few pits have been broken into that were filled with fusian, the "Mother of Coal", and shales of Pennsylvanian age. Again, our nearest coal field is some thirty miles distant. Such bits of geologic evidence bespeak the fact that the crust of our old earth is not, and never has been, a stable proposition.

For the most part these pits are urn-shaped and are from 30 to 50 feet deep, and when the filling is a limey-mud, in the lower part a more or less consolidated mass appears in which calcite crystals have developed in rounded or irregular-shaped masses. When broken, these crystal masses show rhombic crystal structure some of which are very clear but the majority of them grade into crystals that appear to take on the color of the clay that fills the pit from the mud incorporated into the crystal while it was forming. These latter crystals are Mud Calcite Crystals. Naturally, they are not too common.

*(Continued on page 492)*



Here is a close-up of Mrs. Francis Hoover (the lone figure in the photo on the opposite page). And from the pleasant expression on her face she is announcing that—guess what she is saying? The one who sends in the most appropriate answer in 10 words or less will receive a

prize (a rough piece of precious Australian opal). Send your answer to Opal Contest, R&M, Box 29, Peekskill, N. Y. Contest closes Oct. 25, 1960.

This is another view of the precious opal field at Lightning Ridge, N.S.W., Australia. Note the waste dumps.

## U. S. Army offers Travel, Adventure and Mineral Collecting

CDEC RELEASE: 4-6-60. HUNTER LIGGETT MILITARY RESERVATION, CALIF.—Golden galleons on the horizon laden with riches from the Indies and far off Araby; the tingling aroma of spices; and the touch of smooth, cool gems. This is, perhaps, the dream of boys—boys aged ten and sixty. A projection in thought, familiar to all, which places the dreamer into a world of fantasy where all are kings, and wealth is predominant.

To soldiers of the U. S. Army Combat Development Experimentation Center, stationed within the huge and rugged field laboratory of this unit at the Hunter Liggett Military Reservation, these dreams have the opportunity to materialize into reality.

The United States Army offers travel and adventure. However, little mentioned on the recruiting posters gracing even the smallest Post Office, are the opportunities for troopers to participate in little known and at times exotic hobbies.

Hunter Liggett in western California is perhaps one of the most mysterious areas of the North American continent. Composed of mountains, canyons and valleys which are geologically completely unrelated to the adjoining terrain, it is evident that this pocket was once the scene of terrifying volcanic upheavals. When, is little known. Speculation might place this phenomenon during the creation of the Earth itself.

The tremendous pressures and heat of these creative actions formed stones



PACIFIC GROVE, CALIF.—A small fortune in semi-precious stones is surveyed with pride by Sergeant First Class Ben Sawicki, U. S. Army Combat Development Experimentation Center. Discovered in the rugged mountainous area of CDEC's field laboratory at Hunter Liggett Military Reservation in western California, the stones are of volcanic origin, brought to beds of surface streams by earthquake upheavals. Representing a value in three figures if purchased from commercial sources, the stones consist of true Jade, Nephrite Jade, Jasper, Serpentine, Agate, Rose Quartz, and Garnet bearing rock. The Hunter Liggett area contains a wealth of semi-precious gems.

and crystals of great variety. Later, the Pacific Ocean covered this area, and as it receded, the molten masses were exposed. Ancient man formed his spear and arrow heads from pure Jade found in this portion of California. Thus began the establishment of value for choice stones kicked up by calloused toes.

Today, troopers working here to develop the weapons and tactics of tomorrow's Army, pocket fascinating stones as they soldier through the remote terrain of this wilderness—rough rock which they turn into semi-precious jewels utilizing the tools placed at their disposal by the Army Special Services Division.

Readily available within CDEC's field laboratory are such gem stones as true Jade, Nephrite Jade, Jasper, Serpentine, Gold and Rose Quartz, Garnets, Agate, and many other stones of value.

Soldiers first, rock hounds secondarily, many of CDEC's troopers form the nucleus of 20,000,000 American addicts

of this lucrative hobby, who hunt through every nook and cranny of the Earth's crusts and water in search of Nature's treasures—rocks to turn into gems.

American hobbyists spend millions annually on the nation's number one hobby—stamp collecting. It is the same story with coins. Rocks and gems, however, are different. Depending on whether one finds them or has to buy them, the ultimate treasure is measured by the expenditure of one's pocketbook. Inexpensive to collect, rocks are instructive to study and when finished to gem quality, valuable.

Thus, the men of CDEC show their versatility by building the defense future of America, and during their spare time, digging into the depths of mother earth for rocks which might well fill the holds of dream galleons with gems comparable to those in the ladders of ancient Persian Princes.

## WYOMING'S SWEETWATER AGATE

By **RALPH C. GOSSE**  
Albany, New York

The long popular moss agate found in Sweetwater County, Wyoming, is one of the finest American gem agates of their kind. The Sweetwater moss agate locality has been known for more than three-quarters of a century, these stones having been cut into cabochons for jewelry by both the professional and amateur lapidary for many years.

In size, these agates are seldom found larger than two or three inches, most averaging about one inch. All occur in smooth rounded pebbles caused by the action of water. The majority of these agates are grey bodied, quite translucent, nearly all having included numerous dark brown or black fern-like growths throughout the stone. Sweetwater agates often display very delicate moss, these growths suspended independently from each other. At times, these growths are very small, and on first glance look like solid specks, an ordinary magnifying glass will quickly reveal their dainty dendritic

structure. These moss agates are unique, and must be seen to be fully appreciated.

Finished gems made from this agate combine interest and beauty to jewelry. Sweetwater agates are easily fashioned into conventional cabochon forms without sawing because of their natural size and shape, because of this feature, they also lend themselves well for the tumbling process for baroque gemstones by eliminating the time and effort of breakage into suitable sizes.

Many of these agates display a distinct green fluorescence when subjected to the rays of the ultra-violet light. This is due to a slight uraniferous content, which is not uncommon in chalcedony from Sweetwater County.

Over the years these agates have been collected in large quantity, however, they are now becoming very scarce. While this locality is not depleted, it seems very unlikely that it will ever produce these agates in commercial quantities again.

## CAVE OF MYSTERY

By **RAYMOND LASMANIS**, 70 St. Marks Place, Roslyn Heights, N. Y.

One of the major reasons that men spend their extra time crawling through water and mud in winding passageways called caves is that they are venturing into the unknown and unexplored—of being where no or very few men have been.

Last year I and a friend of mine went to a cave called Lipscomb Cave, S $\frac{1}{2}$ , Sec. 21, T. 37N., R. 11W., Waynesville Quadrangle, Pulaski County, Missouri. The entrance to the cave is in a small bluff overlooking the Gasconade River. To get into the cave you have to crawl through a hole three feet high. Following the entrance you slide down a dirt slope of about 30 degrees to a gravel-floored passageway. Obviously a stream flowed out of the cave at this point but has been blocked by a landslide which almost closed the entrance to the cave.

By following this passageway you come to a room with streams entering from a tunnel on the right and one from the left. This room will be referred to as the central room. There is a pool in the room where the streams join. The water percolates into the ground at the pool and probably issues from underneath the bluff outside the cave.

The passageway on the left was followed to the end. It is quite unobstructed with a large room about 150 yards from the central room. An interesting feature about most of the passages in this cave is that along both sides of the tunnels often lenses and pods of montmorillonite clay occur. Maybe this indicates that the courses of the tunnels were determined by the clay bodies.

The passage on the right from the central room leads to complex tunnel systems and was not completely explored. From the central room the right passageway is very narrow, with the ceiling about 25 feet above the stream. But the slope of the stream is about 15 degrees so that in about 50 yards difficulties begin. The flow of water is considerable. The stream comes through a crevice where you have

to sit down in about a foot and a half of water and then edge yourself sideways through the crevice. That places you in a tunnel five feet wide and a maximum of four feet high. There is about a foot of water running over rounded and angular pieces of chert. This is the most difficult part of the cave to traverse, since you have to keep the carbide lamp out of the water with your elbow resting in the water on the chert. The carbide can in my pocket kept hitting the roof of the tunnel. Thus on our sides, one arm, and elbow we edged ourselves through about 75 yards of water and chert.

This tunnel brought us into a dome-shaped circular room about 15 feet in diameter and eight feet high. This will be referred to as the circular room. The water in this room was about two and a half feet deep with only a small ledge where to stand without getting wet. At this point we had a choice: whether to follow the stream or go up through a hole about two and a half feet wide about seven feet up the side of the wall. There was too much water being carried by the stream so we decided to go up through the hole to the second level.

After emerging from the hole into a small room on the second level there was a passageway going to the right and the left. The inclined hole continued up from the circular room and led to a third level. We left that level unexplored.

Coming back to the second level we started to follow the right-hand tunnel. In many places chert ledges stuck out boldly into the tunnel so that we had to crawl under them or squeeze around them. The floor of this tunnel was made of moist brown clayey mud. Soon crawling was the only means of motivation. Formations became more numerous and sometimes the stalagmites would become a nuisance when you had to crawl over them. Every now and then you would get hit in the head by a stalactite. We



followed this tunnel for about 200 yards when we came to an onyx column right in the middle of the tunnel. By turning ourselves sideways we managed to crawl past the column.

At this point I noticed something protruding from the clay and upon examining it found it to be a bone. Upon closer examination we found more broken bones under about an inch of clay. A decomposed skull was on the other side of the column. We deduced that when the animal had died he was facing in the direction from which we came. The teeth from the skull were identified as belonging to *Ursus americanus*, a black bear, by Mary B. Pasturis of the American Museum of Natural History of New York City, New York.

About 30 yards from the onyx column we came to a room where the stream plunges over a chert ledge through a hole to the first level. Above this waterfall the room extends up into the ceiling but as far as we could see does not go to the surface. There are some who have followed the stream from the circular room to the waterfall. In the pool below the six foot waterfall chert pebbles have been tumbled until their surfaces were polished to a glassy luster. They are

quite attractive.

But, let's go back to our problem, the black bear. How did he get into the cave? Above the waterfall the stream can be followed through small rooms and passageways until you come to a room where the stream issues from a wall. Obviously he did not come in from there. We also don't think that he could have crawled through the pitch blackness by the route we followed or by following the stream's course. Only by helping each other did we get out of the circular room. By assuming that the bear followed the stream bed from the circular room we do not see how he could have gotten up to the second level from the base of the waterfall. That leaves only one alternative. There must be another entrance to the cave through one of the rooms. The most logical room would be the one above the waterfall. After falling down he might have been wounded and then wandered against the onyx column where he died. We are assuming that the stream flowed through the second level. But, as I noted before, we could not see any connection from the room to the surface.

Oh well, thus I shall place our problem for you to mediate upon.

## TAIL WAGGING THE DOG!

Editor R&M:

Just a note to let you know that St. Lawrence County's only collector is still alive and collecting. It has been a long time since I've had the chance to stop in and chat with you, maybe I'll make it one of these days.

By the way, you will find a check enclosed to pay for a copy of L. C. Wills' paper on the Preparation of Micro-mounts. Yep, I think that I will get into this field of mineralogy, at least to a limited degree. I've been reading Yedlin's micro-mount column faithfully for some time now and find that it is the best of the regular features. There is a lot of good mineralogy in his column. Don't ever lose him. I may be in the minority, but I feel that too many of us are getting away from the science of mineralogy in our collecting and are merely amassing a lot of pretty stones. I've noticed this with increasing frequency in

the parties that I have guided in St. Lawrence Co. The pebble polishers seem to be in the ascendency. I have nothing against the cutters, it's a fine adjunct to the amateur mineralogy field, but I think that it is becoming a case of the tail wagging the dog now.

Harold J. Lienemann  
Box 42, Gouverneur  
St. Lawrence Co., N. Y.

## Chief Wow Wow of the Collectors Tribe!

Editor R&M:

Needless to say the place you occupy in the hearts of collectors, old and young, is very dear. Your place is at the head of the tribe, fine people all. CHIEF!!! I salute you. May you flourish in good health far into the future.

Harry W. Trudell  
Abington, Pa.

# THE LAST PLEISTOCENE AGE AS SEEN HERE

By DR. WALDO H. JONES

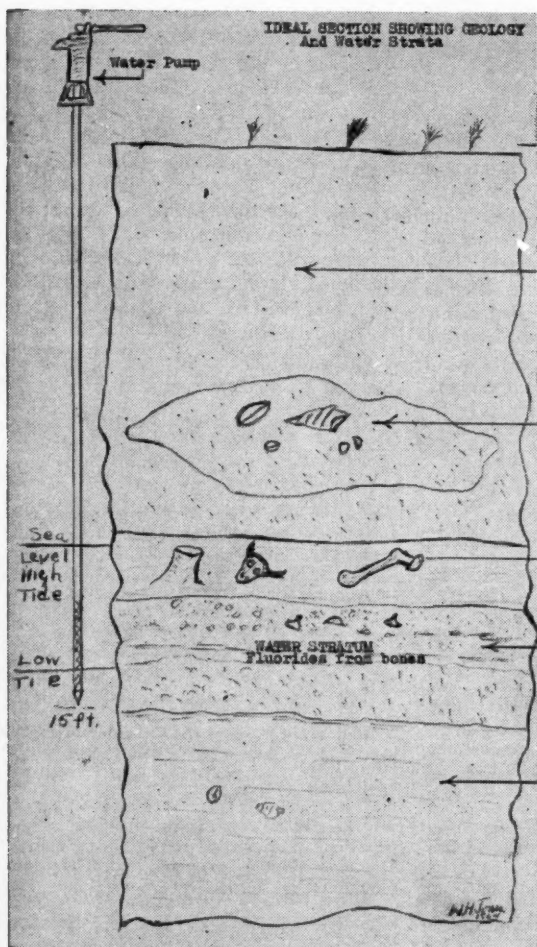
Myrtle Beach, S. C.

Of course I couldn't possibly describe the whole last Pleistocene period in one small story but I can tell you a little about the Pleistocene as represented by the few remains we find here on the great beaches at Myrtle Beach, South Carolina, where I have lived for many years.

Occasionally as you who read my story, know we have Hurricanes as described in a previous article. But the part I didn't

tell you is that we always hunt the beaches for Pleistocene bones and other artifacts of the last Ice age constantly after storms.

If you will refer to the cut in the story you will see from the surface of the ground down; First the modern growth of grasses, verdant vegetation and roots. In present day sands which were laid down on top of other formations as the ice receded to the North and the rivers



Ideal section Myrtle Beach area

A—Surface of present ground

B—Modern recent sands

C—Lenses of shells, etc.

D—Ancient ice age peat bog with mammal bones 4 to 12 feet thick

E—Water flow levels in loose fresh water gravels

F—Transitional soft sandy limestone with loose shells, old bones, eroded sharks teeth. Lots of ilmenite, rutile, zircon, monazite sand.

G—Hard compacted coquina limestone. Interlayered with limestone and sand.

subsided and dropped their earthy materials. These vary in thickness very greatly from North Carolina Southward and to the West on the Great Coastal plains.

Below these we find lenses and immense deposits of shells and other material from the seas but often showing sea erosion and weathering. Many however show no changes worth mentioning.

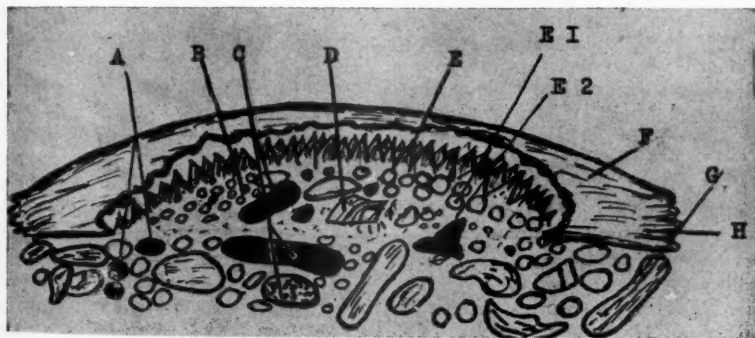
Then we find a deposit of very very ancient peat bog material which contains the fossilized bones of ancient horses, elk, buffalo, all the host of animals of the Pleistocene period of time and the first part of the modern recent times. This varies in places from 3 feet thick to fifteen in others. Below this often a thick layer of muds.

Below this we find a layer of fine gravels of quartzose stones, remains of the ancient mountains to the North and West. These contain the remains of fragments of zircon, ilmenite, rutile, monazite (ra-

dioactive from thorium content) and the usual sand materials. Occasionally we find fragments of slate, greenstone etc. This layer is also possessed of the most valuable thing on the entire coast. FRESH PURE RUNNING WATER.

This thickness ranges from a few inches deep to several feet and is often overlaid by a thick iron material called locally hardpan. Often this is missing. In which case the water is not as good as in the places where the peat is separated from the water by hard impervious hardpan layer. Nor as pure.

Below this we find what's locally called mudstones. These are impure partially calcified rocks containing millions of water borne shells and very ancient beds of bones and sharks teeth all well tumbled and eroded. Cemented by calcite crystals dissolved from the shells and other substances by the ages of contact with the vegetable tannic acids and the acidic peaty materials.



**Cross section of growing mammoth clam shell  
Myrtle Beach, S. C.**

- A—Eroded teeth. Worn bone Very ancient products of erosion
- B—Grains of silica sand, monazite, etc
- C—Worn bones—2 types—black and cancellous
- D—Fragments of bone and shells
- E (1-2)—Dogtooth calcite crystals
- F—Solid shell also growing
- G—Broken waterworn shells
- H—Growing calcite layers

Here and there thruout the masses of loosely agglomerated material we find large unaltered shells and if they are upside down beneath them we find masses of crystals of dogtooth spar actually growing. But the thing of greatest interest is this. Those shells are nearly four times thicker than they were when living and actually growing thru the centuries of time. Actually where not eroded by the Atlantic Ocean these beds are growing harder and thicker over the ages of time. The shells show definite signs of growth layers in their edges and when cut thru often show them thru out the thicknesses of shell. Thus we can prove definitely that rocks do grow thru natural chemical means and not always thru volcanism and tremendous geological phenomena that we had been led to believe. In many places we find replacement of the wood of trees and logs along our great rivers where the wood has become petrified and then erosion has exposed them again to our modern eyes.

One such occurrence is on the Great Pee Dee River at Cashews Ferry Crossing, S.C., on S.C. Road 34. The water is low on the river Sunday, Monday and Tuesday as the dam above is closed then and the power mills are not discharging water into the river. These logs if sought during drouths and other period of low water are fairly plentiful but seldom show the brilliant colors of the Western woods as the petrifying processes are different and the time period much longer possibly. One thing almost unknown widely is that the Western areas of South Carolina and North Carolina were once the sites of tremendous volcanoes and such upheavals which are left today as remnants of volcanic cores of kyanite and such rocks. These are being mined today. Erosion of these tremendous mountains has produced the Coastal plain of today.

Then we occasionally find below this layer other deeper types of limestones before we reach the relatively dense and compacted Coquina Rocks of the ancient beaches of pre-ice last Pleistocene age time. These rocks occasionally bear frag-

ments of bone and sharks teeth. But all are worn smooth.

Now one thing that we do find fairly frequently are fragmented ribs and teeth of various mammals such as camels, horse, elk, buffalos (not modern bison) and the tremendous teeth of the ancient Pleistocene elephants. These are hard to come by as most people who find them won't part with them for any price or trade. I have found many whale and other mammal skulls.

One of our greatest discoveries was the lower jaw of a tremendous whale, some ribs and vertebrae. We found it imbedded in the coquinas at low tide and were barely able to get it out before a storm came up. (See picture.) This was sent to the University of South Carolina Museum at Columbia. At this time we also found the bones of other whales and some ribs in pretty fair condition. A number of complete vertebrae. Five in fact, four of which were stolen before we could collect them in a truck. I have the fifth in my office. It is a very large bone but probably not of the whale whose jaw we collected. It was a sort of Pleistocene bone yard so to speak. The area is now fully eroded by Hurricane Hazel and in deep water.

I do not wish to give collectors the idea that all they have to do is come here and collect. The process is one of constant watching and waiting unless you like shells. We have probably more shells on our beaches ancient and modern than any other Atlantic Beach. In fact it's collected and used for walks, roads etc. Even for spreading on top of tar roofs.

One phenomenon I have observed is how the black sands accumulate by water sorting on the beaches. Often concentrations of fifty percent being reached in places.

To the West and South of us on the edges of the Piedmont plateau we often find these sands in commercial deposits and they are being mined by water borne concentrating plants where the dredges dig the stuff up, and send it over hydraulic sorters, and separate the sands. These are then vanned and separated into

their ingredients for use as titanium minerals. One such place is at Trail Ridge, Florida near Starke, where tremendous areas have been worked over for ilmenite and rutile minerals. The demand in industry today for titanium minerals is being met largely on this coast thru such sands.

Most of the other minerals are stockpiled for future use. Often the zircon sands are saved for use in industry, rockets, ceramics etc. In the near future the thorium minerals or monazite ore will be used for nuclear projects. Such as nuclear heat and generation of electricity thru fusion processes. Thorium while widely



**Petrified bone** (14 ft. long, weight 2100 lbs.) — lower jaw of pre-last Pleistocene age. Whale probably in excess of 125 feet long. Bones collected by Dr. Waldo H. Jones and Associates.

**Stephen Taber, Ph.D., Professor Emeritus of Geology and former South Carolina State Geologist**, is seen examining the huge fossil which is in the University of South Carolina Museum, Columbia, S. C.

present in the earth is seldom in large deposits and veins. It seems to be solely a product of erosive forces breaking down pegmatite and granitic rocks.

It has been said that the mountains to the West and North of us were once over 25,000 feet elevation but thru the ages have eroded and worn down forming the Piedmont areas and Coastal Plain. Mount Mitchell, N. C., is 6080 ft. Certainly the evidence is there to back it.

In the far distant past a great catastrophe struck this area from Virginia to Georgia and from far out in Mid-Atlantic to West of the Tennessee Mountains when the tail of a giant comet sideswiped the earth and left its marks on the Coastal Plains as tremendous elliptical scars and deep depressions which are locally called Coastal Bays. Often where several struck together the meteorites, which were of planetary earthy type, have left large holes 2 or 3 miles long by half as wide surrounded by high ridges of altered white sand. Especially prominent on the Southeast side as they splashed there by the exploding meteorite material. In the SE end of each hole even today there is a deeply magnetic mass of ironstone. I have many pieces of these in my collection.

I might say that the tremendously rich phosphate nodule deposits of the Carolinas and Georgia are the direct result of these geologic and chemical changes occurring thru the ages. The areas today where the Cement Mills are digging out coquina they find enormous deposits of bones. This area lies just West of the Santee Lakes at Harleyville, S.C. These bones have dissolved in places and their phosphatic material been redeposited on the ancient ocean beds around Beaufort, S.C., which lies far to the South East of the area. These phosphates have been extensively mined. Literally tons of bones have been found.

I might point out that recently tremendous deposits of maganese phosphates and other minerals have been discovered deep in the Ocean Offshore deposited chemically thru the action of what is known as salting out. This could also explain the deposits ashore near Beaufort, S.C. These

are commercial.

One very productive collecting area near here is the cut thru of the U.S. Inter-coastal Canals. These deep cuts are down thru the earth forty feet or more penetrating the harder rocks and these are fertile collecting grounds on the spoil areas. At low tide shells and corals can be collected but are often exceptional finds as they are filled with calcareous mud and exactly like they were when they died a million years or so ago. In fact some coral dug out of these muds are among our most beautiful pieces found today anywhere but must be cleansed of muds. Often we find shells with the holes drilled them by the so-called oyster borer that even today is yet killing the same species of shell fish that died in that distant time. The ocean changes very little thru the ages and our state is today enduring its slow erosion for about the 29th time as definitely shown in benches in the state.

Down here on the Coast we lack certain minerals true but there are wonderfully interesting shell beds and typical last ice age stuff to find. In addition occasionally you find the ancient kitchen middens of some pre-columbians who lived and died in time so ancient that very little historical facts can be found about them.

If I can find the time I know where there are great shell piles on a river island West of us. Buildd by the pre-columbian Indians in ancient long gone time.

These ceremonial piles are often also burial spots too but don't go there hunting for gold and treasures. Only the foolish white men valued them. The wealth you will find lies in the ancient story of animal and human life of the past. What they used for tools, what they ate and what they used for ornaments.

Several very fine pieces of sculpture have been uncovered down in Georgia and South Carolina Shell Piles or in Great man-made mounds centuries older than the time of Christ.

This is not a part of this story but I have found embattlements in Western North Carolina of European type dating



certainly prior to the 14th century A.D. These are probably the defences erected by a party of Welch Explorers who were the subjects of Prince Madoc of North Wales and who visited the Gulf Coast and traveled thru the Ancient Choctaw and Cherokee Nations finally to disappear in the far Western areas near the Missouri River thru intermarriage into the Mandan Indians. These Indians always showed European influences. They finally died out from White Men's diseases like measles, mumps and smallpox. But their old forts are yet there.

It is a very humbling thought indeed when we see the past works of nature and their remains.

P.S. I might add in closing that when you do visit beaches remember that many Eastern and Middle Atlantic and Gulf beaches while they have a heavy mantle of sand on them often show beneath large outcrops of quite ancient rocks and coquinas. The contents of these might be very interesting to you and others.

Keep your eyes open also for other material for the Old Ocean often brings in very interesting things. For example

I once found a tremendous piece of volcanic pumice which came in on the countercircular current from the Gulf Stream. Did it come from some far distant Volcano to the South of us in the West Indies or was it a cleaning rock from some ship either lost during the War or thrown overboard? Nobody knows. Also we find occasionally an ancient brass or bronze ornament or cannon from ancient times. Heavy stuff often is fastened to wood etc. and drifted ashore centuries ago. Other valuables reach isolated beaches too. Formerly before the influx of tourists here we found ultraviolet colored bottles and flasks. Seldom now. They disappear too fast.

Also the shells you find today will be dissolved again thru attrition in a week or so. Shells here today might not be the same type also as are here next Gale. Formerly a great series of Hurricanes passed us or hit us. Prior to this there were tons of mussel shells, angel wings etc. on the beaches. They are rare here today but will eventually come back again.

Inside Murrills inlet, S. C., is a good place to search.

#### **Des Plaines Valley Geological Society**

The Des Plaines Valley Geological Society completed its 2nd full year last June. During the past year the club bulletin "The Crystal Cluster" was initiated and is now on a firm basis.

The club membership is now 90 and growth continues as people from nearby areas attend meetings and soon join. All phases of the earth sciences is encouraged.

Mrs. Florence M. Swan, Pub.  
322 Harvey Ave.,  
Des Plaines, Ill.

#### **Central Virginia Mineral Society**

The newly organized Central Virginia Mineral Society met on May 17th, 1960, with 16 members present. Slides of micro mounts were shown and enjoyed by everyone. It was decided to make next meeting "swap night". R. J. Baldwin was elected field trip chairman and it was suggested a trip be planned to Amelia, Va. The club meets on the third Tuesday of each month and anyone in this locality is welcome to join. Present officers are as follows; President, Charles A. Burkart; Vice

President, R. J. Baldwin; Secretary, Mrs. Chas. Burkart; and treasurer, Riley Adams."

R. J. Baldwin  
Rt. 1, Box 91  
Madison Heights, Va.

#### **Snake River Gem Club**

The Snake River Gem Club and Chamber of Commerce have arranged a permanent display of rocks and minerals in the lobby of Hotel Washington, Weiser, Idaho.

All rock collectors and other out-of-town visitors are invited to stop in, at no charge.

Included in the exhibit are rare minerals displayed by John Glass, and beautiful book ends placed by Mrs. Leona Griffith.

It was Mr. Glass and his wife Dorothy who discovered a 237-pound geode near Weiser last fall. The immense agate, which is still unchallenged as world champion, remains on view at the owners' home and visitors are invited.

Weiser is 70 miles Northwest of Boise, at the juncture of U. S. Routes 30 and 95, a short drive from the spectacular scenes of world-famous Hells Canyon.

## HUDSONASTER MATUTINUS FROM WISCONSIN

By BOB BROCK

Age 16

315 E. Commercial St.  
Appleton, Wisc.

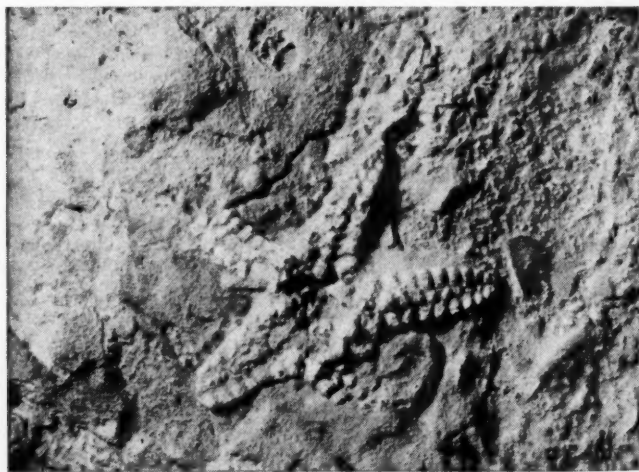
Recently, my dad and I went out to a limestone quarry located near a small town called Murphy Corner, about 10 miles NNW of Appleton, Wisconsin, and I had the luck of finding an Asteroid!

I knew nothing about what the quarry contained, that is as far as the Paleontology went. A good friend of mine, Dr. William F. Read, of the Geology Department at Lawrence College, in Appleton, told me that there was a quarry there, but not what it contained. So, not having my driver's license yet, I asked my dad if he would take me out there to do some looking around. He said he would. (Through the years of my collecting he has become interested in minerals and fossils and has added many fine specimens to my collection.)

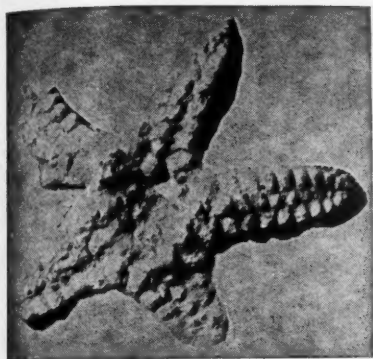
When we arrived the quarry didn't look too good, it didn't have the right colored rock for the type of fossils we were looking for, (trilobites and crinoid heads), but in spite of this we started

looking. The rock is a sort of creamy tan shaly dolomite, and most of the layers have their surface covered with manganese dendrites. There is hardly any visible mineralization, a little chert, and here and there minute traces of calcite and pyrite, there also may be some sphalerite present although I didn't see any. The fossil life for the greatest part is made up of brachiopods, of the *Plectambonites sericeus* type, along with a few others whose names I'm not familiar with. Crinoid plates, graptolites (of which I found one piece) crystallized impressions of gastropods, very small nautiloids, and a few other fossils may also be found.

We had not been finding very much of anything and were about to leave when I saw a large flat rock covered with crinoid plates and what looked like a calyx, I got out my magnifying glass and found it was a calyx, but it was so badly smashed that it was hardly recognizable. So I let it lay and looked at a large rock next to it which had a few plates on it.



**Hudsonaster Matutinus (fossil starfish) embedded in limestone, from Murphy Corner, Wisc. Found October, 1959 by Bob Brock.**



**Hudsonaster Matutinus (fossil starfish)**  
from Murphy Corner, Wisc. Found October  
1959 by Bod Brock.

The rock stood about seven feet high, four feet across, and about a foot thick. And there before my eyes, as plain as day, on the right hand corner of that rock was a starfish about an inch across. I was so happy to find this that I called to my dad, who was working over on the opposite side of the quarry. The two of us scored and chiseled on it for almost an hour before a large piece of the rock fell off with the starfish in the middle.

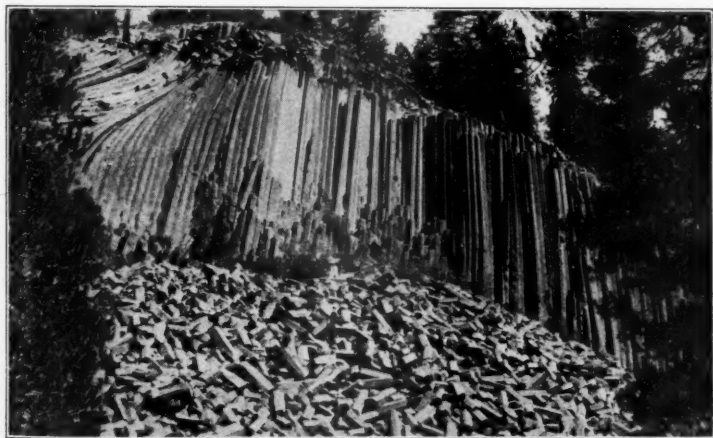
Starfish are rare for a couple of rea-

sons: First; when they die their plates decay and fall apart from the rest of the body, and looking for these plates is almost an impossible task. And lastly, there were not a great number of these animals. From a reliable source I found that at the most six of these fossils have been found in the state of Wisconsin. Two and one-half of this number are in the Lawrence College Museum. I took the starfish to Dr. Read, and he said it was excellent. He took some pictures of it, both in the matrix, and free of the matrix. (See pictures.)

I looked through quite a few books on fossils and after I had classified the starfish as *Hudsonaster Matutinus*, I took it to him again and he agreed that my identification was correct. Below are some facts as to size, etc.

#### *Hudsonaster Matutinus*

Arms, stubby but in proportion with rest of body, upper surface covered with smooth, thick plates, arranged in logical order. Age—Middle Ordovician. Outside Diameter Of Specimen — 3.5 cm. Length Of Single Ray — 16 mm. Width Of Single Ray — 4 mm. Width of Ray At Mid-Length — 5 mm. Diameter Of Central Disk — 4 mm.



#### **THE DEVIL'S POSTPILE**

A huge mass of columnar basalt located in the East Fork of the San Joaquin River in

the Sierra Nevada Mountains of Eastern California. This is only one of the many wonders of California.



# WORLD NEWS ON Mineral Occurrences

ITEMS ON NEW FINDS ARE DESIRED  
PLEASE SEND THEM IN.

**Abbreviations:** xl—crystal  
fl—fluoresces

xled—crystallized  
ph—phosphoresces

xline—crystalline

**ALABAMA**—In the offices of James Miller Davis (architect), 211-212 Guaranty Savings Bldg., Montgomery, Ala., we saw an interesting specimen—a cleaved mass of pink calcite on green talcose schist. The specimen was collected in the marble quarries at Sylacauga, Talladega, Co., Ala.

**ALASKA**—A new mineral that was first found in Alaska was named hulsite in honor of Alfred Hulse Brooks of the U. S. Geological Survey. Hulsite was found as small xls or tabular masses, whose color and streak is black. It was found in metamorphic limestone at a granite contact at Brooks Mountain, Seward Peninsula, Alaska, associated with vesuvianite, magnetite and calcite.

**ARIZONA**—Masses of native copper, some weighing up to several hundred pounds, have been found in the Copper Queen Copper mine in Bisbee, Cochise Co., Ariz.

**ARKANSAS**—A large, beautiful grayish agate, sawed and face polished, and coming from the world-famous Crater of Diamonds, near Murfreesboro, Pike Co., Ark., has been donated by the Millars, owners of Crater of Diamonds.

The Crater of Diamonds is the only genuine diamond crater in North America. It is a tourist attraction and opened year-round, daily and Sunday.

**CALIFORNIA**—Massive white glassy datolite with a slight greenish tinge occurs in a pegmatite in the limestone quarries at Crestmore, Riverside Co., Calif.

**COLORADO**—"After a period of many years, the old Augusta Lode, 1/2 mile from Evergreen (south), Jefferson Co., Colo., is being reworked. The ore of the Lode is a quartz-fluoride vein in red granite (Pike's Peak variety). The economic minerals are fluorite, lead-zinc, malachite, and some silver and gold.

"This mine goes back to the 1870's and 80's—and worked off and on since then. Never a great producer, it usually was only for short periods of activity that mining was done.

"The ores of the mine are of interest to collectors for their bright colors—a combination of green malachite and zoned green and purple fluorite. Some samples have a bright reddish-brown iron ore in them making a colorful combination of greens, purple, and red. No crystals are being found but massive resinous sphalerite cores in the colorful ore are found.

"Collecting is by permission only! Ask first!"—item dated Feb. 13, 1960, from Don Ingle, Evergreen, Colo.

**CONNECTICUT**—"Can you give me an identification on this mineral? It came from a road cut in Tarriffville (Hartford Co.), Conn."—a recent item sent in by Mr. and Mrs. Stephen Ridell, 228 So. Center St., Windsor Locks, Conn.

The specimen consists of small, white albite xls.

**DELAWARE**—We need items on Delaware. Do hope a reader will send one in.

**FLORIDA**—In following the dredge in Gulfport (suburb of St. Petersburg), Pinellas Co., Fla., a beautiful 4 inch long, platy xl of pale golden selenite was found by Mrs. Ray F. Bowman, 1791 Sylvan Dr., Clearwater, Fla.

**GEORGIA**—*Gem Minerals of Georgia*, by James G. Lester, pp. 102-104, appeared in the Winter 1959 issue of **GEORGIA MINERAL NEWSLETTER**, published quarterly by the Georgia Geological Survey, Agriculture Building, 19 Hunter St., Atlanta, Ga.—Editor, A. S. Furcron).

In the article, Professor Lester states that the rarest of Georgia's gems are diamond, ruby, aquamarine, sapphire.

**Diamond**—The first diamond found in Georgia was reported in 1843 at Williams Ferry in Hall County by Dr. Stevenson while panning for gold. The stone weighed better than six carats.

**Ruby**—The only stones really transparent enough to be classed as rubies have come from the old Hog Creek corundum mine in Town County. At Piedmont Orchard in Habersham County, beautiful nodules of deep red fluorescent ruby corundum are found encrusted with bright green margarite.

**Aquamarine**—Aquamarine, generally found in pegmatite dikes related to granitic rocks, has been found in Troup County near La Grange. All of the stones are a rich blue-green and stones as large as fifteen carats have been cut from some of the material. About 1300 pounds of gem quality aquamarine has been recovered from this district. No emeralds have been found.

**Sapphire**—No transparent sapphire corundum has been found in the state, but several small pieces of the blue opaque variety have been polished into beautiful stones.

Other gem minerals found in the state include wide varieties of quartz, garnet, tourmaline, spinel, zircon, feldspar, etc., etc., etc. This is an intensely interesting article.

**HAWAII**—Tiny red grains of almandine (garnet) have been found in a

gneiss boulder near Young Street in Honolulu, Oahu Island, Hawaii.

**IDAHO**—"In T 65 N, Range 3W, SW $\frac{1}{4}$  Sec. 29, on the east slope of Saddle Mountain (Boundary Co.), Idaho, slender black xls of tourmaline were found in a granite boulder consisting largely of quartz and biotite mica. The tourmaline xls are arranged in a sunburst arrangement. Several of the xls measure up to an inch and a half in length but are only about  $\frac{1}{8}$  inch in diameter.

"This one specimen was stumbled upon while I was taking a short cut across country over a rock strewn slide between two forest service trails. Later that evening, a careful and determined examination of the area uncovered only one more specimen of tourmaline and this only as small, isolated scattered black xls. Considerable type material is scattered over the higher slopes."—item sent in by Gerald J. Navratil, Box 408, Middleburg, N. Y. Mr. Navratil has spent a number of summers in Montana and Idaho so he is well familiar with mineral localities in those areas.

**ILLINOIS**—From Mrs. Bonnie C. White, Rt. 3, Marshall, Ill., we received a 1x2 inch pebble of gray chalcedony which had been found in her area. Cavities in the pebble are lined with lustrous, glassy, colorless drusy quartz.

Marshall, Clark Co., is in eastern Illinois.

**INDIANA**—"Last summer, while on a trip to the Midwest, I stopped off at Turkey Run State Park in Park County, Indiana. I found that by wading into streams (outside the park) and prospecting on the gravel bottom I could locate limestone geodes many of which were filled with clear crystals of quartz. These geodes ranged in size from a marble up to 8 or 10 inches in diameter. As these were in many instances formed by water dripping from overhead, many geodes had the hole through which the original material entered. In others, the hole had sealed. Those with a hole were now filled with mud and sand."—letter

dated Jan. 10, 1960, from Vernon Wertz, 9707 Sutherland Rd., Silver Spring, Md.

**IOWA**—Loose, stalactitic masses of brassy-yellow pyrite have been found at a coal strip mine near Melrose, in S/W Monroe County, in the southern part of Iowa. This find reported by Michael Papcun, RR 1, Melrose, Iowa.

**KANSAS**—A beautiful, loose, colorless platy selentic xl has been received from Larry Davis, 617 East Ave. B, Hutchinson, Kans. The xl comes from Walker in N. Ellis County, Kans. Although colorless, the xl has a grayish tinge due to gray inclusions.

**KENTUCKY**—Brown chert nodules in gray limestone occurs on Red River in Wolfe Co., Ky., about 18 miles from Pine Ridge on Route 15.

**LOUISIANA**—Near Rhinehart, La-Salle Parish, La., an 8 foot x 30 inch opalized tree (half agate, half opal) was recently found in a gravel bank by Mrs. Ken Kyte, Box 161, Covington, La.

**MAINE**—"Long Island in the town of Blue Hill (Hancock Co.), Me., provides some interesting minerals. It is a rather large island—seven or eight miles long. Last fall (1959) we got good beryl xls up to the size of a pencil associated with molybdenite xls and a little violet colored fluorite. As far as I know these are described only in an unpublished thesis for an M.S. at University of Maine. Previously on the other side of the island we had found good grass-green fluorite xls—some with purple corners. This was associated with quartz druses and a little galena. An old geology report says there is an eight inch fluorite vein across the island. This we have failed to locate. These specimens are not likely to be really plentiful. One reason is that the rock is strong and the fluorite lies apart before the rock breaks."—a recent item from William P. Hinckley, RFD 3, South Brewer, Me.

**MARYLAND**—Black tourmaline xls in quartz have been found in gabbro boulders around Pimlico, Baltimore, Md.

**MASSACHUSETTS**—From the gravel stones found in Westport, Bristol Co., Mass., we have two sawed samples that were sent us by Eugene R. Williams, 2457 Riverside Ave., Somerset, Mass.

One sample is a dark purple and white siliceous breccia. The other is a colorless quartz stained various shades of red by iron. Both specimens are attractive and indicate what may be found in gravels.

**MICHIGAN**—A 2x3 inch mass of native copper from the world famous copper mines of Upper Michigan was sent us by Lyle De Rusha, Rt. 1, Chippewa Falls, Wisc. The locality for the specimen is the La Salle Copper Mine at Calumet (Houghton Co.), Mich.

**MINNESOTA**—Gray, striated masses of labradorite have been found in boulders in a gravel pit near Moose Lake, Carlton Co., Minn.

**MISSISSIPPI** — Brownish, banded (Lake Superior type agates) have been found in the Wolf River, N.W. of Gulfport, Harrison Co., Miss., by Jud Locke, 39-48th St., Gulfport, Miss.

**MISSOURI** — "For sheer beauty of forms and variety of colors, the deposits of drusy quartz in Washington and Jefferson Counties of Missouri probably have nothing to surpass them in the entire country. This quartz is disseminated all through the immediate country rock which is of the Cambrian and locally called the Potosi Dolomite. This formation reaches a maximum of nearly 400 feet. Much chert and quartz occur throughout the entire thickness. Down through the ages the top portion of this dolomite has weathered and dissolved away, leaving the druses of almost unperishable quartz loosely scattered on or near the ground surface. This same weathering and leaching process has caused the barium content to be redistributed and is now found as residual deposits of barite and has made this area one of the world's largest producers of barite. Most of the mining operations are made from the surface as strip or shallow pit projects. In the early days



of barite mining or tuff digging—so called by the local miners—the method then was mostly hand labor, but modern excavating machinery has changed the mining entirely.

"Most of the barite is embedded in a very sticky red clay highly charged with iron oxide but when thoroughly dry the clay shakes off easily.

"Much of the barite is crested or bladed and occasionally the clear tabular crystal variety is found.

"A never ending variety of drusy quartz is unearthed by these mining operations and in nearly all the road cuts along the highways it may be found in great profusion. The many color shades are caused by iron oxide or perhaps a small amount of manganese may have caused the darker colors.

"At several of the road cuts or strip mines, some attractive specimens of limonite pseudomorph after barite, also limonite pseudomorph after marcasite, may be collected.

"Many of the quartz druses are in rosette form. This came about by the later deposition of silica being laid down on earlier layers of botryoidal chalcedony. Thus the base was provided for the rosette form of quartz. In some of the druses several bandings of the chalcedony may be seen and it will cut and polish nicely.

"The very earliest mining efforts made in this section were made in the hope of finding galena. The early miners called the drusy quartz 'blossom rock'. It was they thought a mark for galena deposits. Considerable galena has been located here but nothing to compare with other sections of Missouri.

"Many good places for collecting are along Missouri State Highways 21, 47, 8, in the vicinity of Potosi and the village of Old Mines, all in Washington County, (Potosi is the center of the barite mining area of Washington County).

"The writer has just recently collected from a deep road cut on a new section of Highway 21 close to its intersection with Highway 8. Some nice calcite xls in vugs lined with small dolomite xls,

also massive galena and small iridescent marcasite xls. In the same road cut some very attractive individual small rosettes of ruby sphalerite were found imbedded in massive white barite. This form of sphalerite in association with barite is, I believe, quite unusual."—letter dated Jan. 22, 1960, from John A. Allen, 1256 McLaran Ave., St. Louis 15, Mo., (member of St. Louis Mineral and Gem Society).

**MONTANA**—From Hjalmer Johnson, prop. of the Lost Cabin Trading Post, Wibaux (Wibaux Co.), Mont., we have a thin slab, 2x3 inches in size, of a black moss agate—a very nice specimen.

"Specimen cut from an elliptical ball, approx. 6 inches long and 4 inches in diameter. Outside color dull red with black blotches.

"Found about 30 miles north of Wibaux, Mont.

"Somewhere, a long time ago, I saw some chessmen carved out of a similar material, claimed to be 'fossil ivory'" —on label.

**NEBRASKA**—Small smoky quartz xls occur with calcite xls in geodes found in a limestone quarry at Wymore, Gage Co., Nebr.

**NEVADA**—Placer gold was discovered in 1849 at the mouth of Gold Canyon near the site of Dayton, Lyon Co., Nevada. This was the first recorded discovery of placer gold in Nevada.

**NEW HAMPSHIRE**—A beautiful 2x2 inch cleavage of pink calcite has been received from White Mountain Mineral Shop, Campton, N. H. The locality for this fine specimen is Franconia, Grafton Co., N. H.

**NEW JERSEY**—"Enclosed is a specimen which might be of interest to your World News readers. It consists of acicular white natrolite on milky analcite xls. The analcites are beautifully developed but 10X magnification is needed to appreciate them.

"This specimen comes from the trap rock quarry at Millington (Morris Co.),

N. J. The quarry, though very large and extensively worked, produces very little of interest to the mineral collector. Perhaps that and the fact that it is not an easy quarry to find, explains why it is seldom if ever heard of.

"As I am a very active collector and have access to five different quarries, from time to time, I will endeavor to fill you in whenever I find something that I think might be of interest to you and your readers."—letter dated March 31, 1960, from C. L. Key, 76 Tillotson Rd., Fanwood, N. J.

The specimen consists of a 2x3 mass of dark gray (almost black) basalt on one face of which were implanted the analcite and natrolite. A most interesting specimen.

We especially appreciate Mr. Key's offer to keep us supplied with items on new finds so as to keep this department running and of continued interest. Quite a number of subscribers have volunteered their services in this way—wish we had one in every state!

**NEW MEXICO**—Very fine specimens of light to apple-green fluorite have been found in the fluorite mines of the Fluorite Ridge district, Luna Co., N. Mex.

**NEW YORK**—At the old abandoned Canada Magnetite Mine, near Cold Spring, Putnam Co., N. Y., there is an outcrop of gneiss containing a large number of thin, horizontal veins of black magnetite. The mine is in Clarence Fahnestock Memorial Park and the above occurrence almost borders the southern edge of N. Y. Hwy 301.

**NORTH CAROLINA**—"Pyrophyllite occurs in Alamanace County, North Carolina, at the Snow Camp Mine located 3.3 miles southeast of the village of Snow Camp. This deposit can be reached by following the paved road south out of the village for one mile and turning east on a secondary road for approximately 2.3 miles. The mine lies north of the road on the side of a wooded hill, 0.2 miles above the road.

"In addition to massive pyrophyllite, sericite, pyrite, and chert occur in the mine. A few years ago several clear quartz crystals enclosing pyrite cubes and pyritohedrons were found in a quartz vein which crosses the southern part of the deposit."—Mineral Localities of North Carolina by James F. Conley, p. 6. Information Circular 16, issued by North Carolina Department of Conservation and Development, Raleigh, N. C.

**NORTH DAKOTA**—Florence Newsum, Hurdsfield, N. D., sent in a rock specimen from her area which is similar to what is found in Peekskill, N. Y. It is dark gray (almost black) phyllite. Hurdsfield is in S.W. Wells County, which is in central North Dakota.

**OHIO**—"Earlier this month some friends of mine and I went to a shale bank just off Poorman's Road in Berlin Heights (Erie Co.), Ohio. Imbedded in one layer of the bank were these odd and interesting formations, samples of which are sent you. The layer was very hard and ran all along the whole bank. These formations were in the layer. If you had the skill and some luck you were able to break the formations from the mother rock.

"A very long time ago the stream beside the bank cut away the shale and carried it along with the stream. The layer with the formations in it was very hard and heavy causing it to drop to the bottom very rapidly. Thus parts of the layer are found all along the shale bank in 8x10 inch slabs.

"I am not a fossil collector but I would appreciate knowing the name of the formation."—letter dated April 12, 1960, from John Holliger, Chaska Beach, Huron, Ohio

The specimens are not fossils but a rare geological formation known as cone-in-cone. They are dark gray in color.

**OKLAHOMA**—Some few months ago we received the following item from Mrs. Marie Kennedy, 737 West Kansas, Blackwell, Okla.

"Under separate cover I'm sending you some specimens of fluorescent concretions from Commanche County, Okla. They are botryoidal in form and known to Oklahoma Rockhounds as 'Grapes of Wrath.' They appear to be grape-like clusters of small nodules with calcite centers, and they fluoresce a pretty shade of red. When cut and polished they make very interesting specimens."

A 3x3 inch reddish-brown botryoidal concretion was received—an attractive specimen.

"From Cache, Commanche, Co., Okla."—on label.

OREGON—A sawed 2x3 inch section of a dark brown, banded petrified wood, was received from Mrs. Inez O. Rodgers, P.O. Box 184, Oakridge, Ore. It comes from Lookout Point Reservoir, between Oakridge and Lowell, Lane Co., Oregon. It is an attractive specimen

PENNSYLVANIA—"I am sending you some quartz crystals (both clusters and individual crystals) which I found in Monroe County, Pa. They were from a pocket near the top of a cliff. The pocket is in a layer of rock that at one time was folded and broken. For my own collection I call the crystals 'Pocono diamonds.'"—item sent in by Donald Pitcher, 3 Spruce St., Owego, N. Y.

Crystal Hill, Monroe Co., Pa., has long been known for its quartz xls and we mentioned this in our letter to Mr. Pitcher. Here is his reply, dated Jan. 2, 1960.

"Inasmuch as I have never heard of or read about Crystal Hill, I cannot rightly state whether the location of these crystals is that one or not. This I can say, that I located the crystals in a pocket of the folded or broken rock that lies just above the main layer of bed-rock that occurs in this area. The Delaware Water Gap is visible at a distance of approximately 20 to 25 miles.

"This find of quartz crystals is unique in the fact that there are so many types found in one small place. Although the majority of the crystals were singly terminated, there were some doubly terminated

ones ranging up to 1 inch long. The doubly terminated crystals in no way resemble 'Herkimer Diamonds,' instead they are quite similar to the singly terminated ones except they have perfectly formed terminations on each end. I was able to get both a large variety of nice clusters and a large assortment of loose crystals. Another nice feature is the absence of any stain within the crystals themselves.

"I am proud of these crystals and would like to exchange some with others, quite a few are clear enough to be faceted.

"I am quite certain that this is a new locality since the presence of these crystals certainly wasn't known by the people living in the immediate vicinity."

This is a new locality for quartz crystals in Monroe County, Pa. In his article, "A famous forgotten quartz crystal locality, Crystal Hill Near Delaware Water Gap, Penna.," O Ivan Lee states that the Delaware Water Gap is only 7 miles away (R & M, July-Aug. 1950, p. 372), Mr. Pitcher says in his item, it is approximately 20 to 25 miles.

Two clusters and 3 single xls were received from Mr. Pitcher—they are all rock xls. The clusters are 2x3 inches in size, and the loose xls are each 1 inch long. All are very nice, sharp, clean xls.

RHODE ISLAND—Yellowish quartz xls have been found with coal in slate at the old abandoned coal mine in Portsmouth, Newport Co., R. I.

SOUTH CAROLINA—"This piece of petrified wood is from Kingstree, (Williamsburg Co.), S. C. Mr. Rogers, Superintendent of Water Works there, found it about 6 feet down when digging a water main ditch. Weight was about 6 or 8 pounds."—item sent in by Frank L. Sims, 750 "B" Ave., West Columbia, S. C.

2x3 inch sawed slab was received. It is a beautiful specimen, thinly banded gray, brown, red with a rough white surface.

**SOUTH DAKOTA**—From Robert B. Houston, Jr., 5133 Worthington Dr., Washington 16, D. C., we received a specimen consisting of lustrous, tiny black tourmaline xls in white albite and pale smoky quartz. It comes from Horse Thief Lake, Black Hills National Forest, South Dakota.

"Horse Thief Lake was drained in the summer of 1959. A rock outcropping along the western edge of the lake floor contained these interesting black tourmaline xls in a matrix of albite and quartz"—on label.

**TENNESSEE**—White, platy barite is found in the Hoover zinc mine, near Readyville, Cannon Co., Tenn.

**TEXAS**—Turquoise occurs in the pre-Cambrian Carrizo Mountain schist near the Culberson-Hudspeth County line, 6 miles west of Van Horn, Texas. This turquoise deposit has been mined on a small scale for many years.—Texas Mineral Resources. Issued by the University of Texas, Austin, Texas (No. 4301, Jan. 1, 1943). p. 378.

**UTAH**—"Red agate locality. State 128, Cisco to Moab, Utah. Along Colorado River, approximately 10.4 miles from Cisco, agate on hill to right. To left is the junction of the Colorado and Dolores Rivers. Along this road to Moab, in the hills some very nice bone and wood has been reported (all localities in Grand County, Utah)."—courtesy of Ken Stewart's Gem Shop, 37 South West Temple, Salt Lake City, Utah.

**VERMONT**—Small colorless xls of dolomite in dark gray limestone have been found in Canaan, Essex Co., Vt., by Milton E. Ailes, Box 36, West Danville, Vt.

**VIRGINIA**—Black masses of allanite are found near Arrington, Nelson Co., Virginia.

**WASHINGTON**—"One of our favorite hunting grounds we visited last summer (1959) after 10 years' absence was Denny Creek on Gage Mt. in the Snoqualmie Pass area, near the King-Kittitas County line, Wash., revealed more quartz crystals than we used to find in the olden days. The location is now fairly well known and several new pockets have been discovered and despite the bit of cliff climbing some large groups have been brought down. The exposed pockets are now barren but there is every reason to believe more will be discovered with a little searching. Probably the reason this location is still good is because of the long hike and then climb up a steep creek bed. Also the snow is out only a very short time, usually August. At the last Seattle Regional Gem Show we saw a large, about 8" each way, beautiful Japanese Twin Crystal from this same area, which is a big incentive to go back and have another look.

"The area is a contact zone and also contains epidote (sparingly) and specular hematite (plentiful). A few quartz crystals have been found with inclusions, as yet not identified, possibly rutile. The crystals are all badly stained which can be cleaned but they are badly etched so do not have the lustre of the Arkansas crystals."—letter dated Jan. 5, 1960, from Mrs. L. R. Haggard, 6525 196th St., S.W. Lynnwood, Wash.

**WEST VIRGINIA**—Nothing to report as no notes have been received from readers.

**WISCONSIN**—Nice red jasper pebbles have been found around Elkhart Lake, Sheboygan Co., Wisc.

**WYOMING**—John S. Albanese, P.O. Box 221, Union, N. J., sent in an interesting specimen consisting of minute, black pyrolusite xls on drusy, bluish-gray quartz.

"From Mineral Hill, Marshall (Albany Co.), Wyo."—on label.

**ARUBA**—This is a small Dutch island in the West Indies (Netherlands Antilles). From Aruba we have a specimen of black hornblende associated with smoky quartz. The specimen was sent in by Bill Learned, Box 566, Lago Colony, Aruba, Netherlands Antilles.

Aruba is an important oil-refining center.

**JAPAN**—Obara, Iwaki Province, Honshu Island, Japan, is a locality well known for its amethyst which is found on a quartzose rock. The amethysts are transparent and of a beautiful purple color of different shades.

**FORMOSA**—Formosa, or Taiwan, is China's largest island lying on the Tropic of Cancer off the east coast of China. It is roughly 244 miles long and 75 miles wide.

In the northern part of the island, in the Gin-gua Shi area of Keelung District, are important gold mines. From one of the mines we have a 3x3 inch gold ore that was collected for us by R. W. S. Doo, 155 St. Johns Rd., Glebe, Sydney, N.S.W., Australia. The specimen is a dark purplish sandstone stained in places by brown limonite. No gold is visible, unfortunately.

Mr. Doo recently visited Formosa and collected many specimens on the island.

**MEXICO**—From the silver-gold mines at Pachuca, Hidalgo, Mexico, we have an attractive pyrite specimen that was sent in by John S. Albanese, P.O. Box 221, Union, N. J. It is a 2x2 inch flat platy specimen consisting of dark bronzy-yellow tiny pyrite xls on smoky quartz (some of the quartz is in tiny xls).

**RUSSIA**—John S. Albanese, P.O. Box 221, Union, N. J., sent in another attractive specimen—a xled dark brown lustrous siderite on dark brown fine xline lustrous siderite. This 2x2½ inch specimen comes from the iron mines of Bakal in the Ural region of eastern Russia.

"Siderite, O.G.P.U. Mine, Bakal, U.S.S.R. (Russia)."—on label.

**SCOTLAND**—"I was over to see your good friend, Sandy Ramsay, last week and while he is better he is making a slow recovery (Sandy has been on the sick list for months).

"I have been expecting to hear if you were going to manage your trip to Scotland. Mrs. Forrest and I would be very pleased to see you (the Editor) and to take you to any places in Scotland you may want to visit.

"I have made several trips to collect agates and am now busy cutting some and tumbling others."—letter dated June 22, 1960, from Arch Forrest, 1381 Pollokshaws Road, Glasgow S1, Scotland.

For many months the Editor has been trying desperately to get away for a few weeks to visit Sandy in Glasgow but pressure of work has him hog-tied in the office. Now if someone would come and literally drag him away—then he would have to go. But who would dare to drag the Editor away from his office????

#### ALL ABOARD FOR BISBEE!

We are indebted to Richard Bideaux, 2716 E. 4th St., Tucson, Ariz., for the following clipping which was taken from the May 12, 1960 issue of Brewery Gulch Gazette, Bisbee, Ariz.

"In reference to Bisbee, Ariz., we heard some amusing comment from some of the collectors down there. The new highway is being built to bypass Tombstone Canyon and heavy moving equipment is already hard at work in the parking square in the heart of the city. The new road will be cut just above the present postoffice. There are lots of old mines and mine dumps up there and the specimen hunters are watching the situation closely. One fellow predicted that the collectors will be standing shoulder to shoulder when the dumps are cut. They also hope for some oxides in the hill itself. And don't think that there aren't enough interested persons in Bisbee to make up a small army of that kind. We wish them luck.

# THE MICRO - MOUNTER

Conducted by Neal Yedlin—129 Englewood Drive, New Haven, Conn.

Some good collecting news. This from Dick Thomssen, 906 Fifth Ave., San Manuel, Arizona. Among other things he tells of stunning recent finds in Arizona, and since he is a m/m collector, he speaks of quality material. Read for yourself.

"Dear Neal: I have much news on Arizona mineral finds. Sid Williams (my one and only convert to micromounting) has elected to do his PhD thesis on the mineralogy of a group of quartz veins on the west side of the South Comobabi Mountains about 60 miles west of Tucson. He has found 68 species in the quartz veins and about 10 more in the wallrock. Some of these are very spectacular finds indeed! He has found among others the following of particular note: Paratacamite with cerargyrite and svanbergite which is green! Serpierite as good as Laurium that I have seen associated with brochantite, anglesite and zincian dolomite. Single, untwinned malachite crystals that show two new forms and are associated with gold. Lepidocrocite, hematite and jarosite as crystals on the same specimen. Platinian vanadinite! One item of particular interest to me was the discovery of molybdenite in galena-bearing quartz veins that have wulfenite in their oxidized portions! Iodyrite crystals that have habits from flat, platy to quartzoid and in one case overgrowths of miersite!

"Sid has endeavored to identify everything that cropped up and has only one unknown at present. There is not enough to X-ray or we would have a real rare one. He is fairly certain from optics that it is *buttenbachite*!

"That 68 is a very impressive number to my way of thinking. There are not very many localities in the world that have more. The reason for this may simply be that we have very few people who

are capable of doing the kind of work necessary to find and describe such localities. Franklin, Langban and Crestmore are well studied because they are very spectacular geologically as well as mineralogically, and, of course, have had many new species found in them in rather large quantities. This is not true of present-day work on these deposits but was certainly the case when they were in their prime. I personally think that a few other well-known localities such as Mina Ojuela, Brandy Gill; Schneeberg and Joachimstal; Shinkolobwe; Broken Hill, Rhodesia and N.S.W.: Mammoth mine, Tiger; and Bisbee are in the same category as the Big Three. Dick Bideaux has a list of 96 species described and identified from Bisbee! However, to find and describe an unknown deposit such as the South Comobabi Mountains area that Sid has found, with so many species (some real rare ones at that), is a real mineralogical accomplishment.

"From the Mineral Hill mine south of Tucson he has identified the following: gerhardtite, pseudoboleite, connellite, linarite and brochantite! Only the first and last two occur in crystals and the first in very rare crystals indeed! Add atacamite, and also fluorite, in beautiful white xls, with phantoms, on bright green brochantite.

"Another spectacular find is iodyrite with natrochalcite from a mine near Wagoner, Yavapai County, Arizona. We are currently trying to find out exactly where said mine is. The material given to Sid was reportedly collected on the mine dump! Cleavages of matlockite, up to 1/2 inch across, and cerargyrite also were in the piece.

"My own efforts have been pointed in two directions. First, I'm trying to accumulate as complete a collection of micromounts from the San Manuel mine



as is possible. I have lepidocrocite, goethite, both prismatic brown and black equant, pyrite with several forms, atacamite, barite in two habits, willemite, cuprite and chalcocite, all in good m/ms; and copper in a multitude of crystal habits and forms. The copper is by far the finest that I have come across, but undoubtedly not the finest in existence. Its chief attribute is the sharp development of the various crystal faces. I have a spinel twin of octahedrons flattened parallel to the twin plane with overgrowths of hextetrahedra modified by the cube, and preferentially oriented on dodecahedral line faces modifying the octahedra of the twin. This is probably the best mount of copper of the bunch, although my spinel twinned hextetrahedra ranks a close second. Two or, possibly, three stages of copper deposition are responsible for the wide variety of habits and combinations present.

"The second project that is presently occupying my time involves some material that I collected three years ago at the Florence Lead-Silver mine in the Tortilla Mountains, about twenty-five miles northwest of the Mammoth mine. Brilliant orange-red crystals which I first thought were replacing wulfenite were found to have Pb, Mo, and Cr as their principal ingredients! After pondering over the crystallography for some time I decided that I might possibly have molybdenian crocoite with nearly equally developed (111) and ( $\bar{1}\bar{1}\bar{1}$ ) to give a pseudotetragonal crystal. The distortion apparent on close inspection fits that which would be necessary to agree with the Beta angle for crocoite, i.e., an inclination of the c axis to the a axis of  $102^{\circ}33'$  or a variation from true tetragonal symmetry of  $12^{\circ}33'$ . This all borders on rationalization! Sid and I went back to the mine last Monday and collected gobs of fine material. After working over what we have on hand it now becomes apparent that the situation is more complicated than I first thought. Isn't this always the way it is? The Mo-crocoite (for want of more definite data this will have to do)

is replacing a mineral similar in color to some of the wulfenite associated in specimens with these two, but differing radically in crystal form. The unknown appears to be either triclinic or monoclinic and in habit resembles axinite more than any other species. All I know of it at present is that it contains lead — I found minium replacing it! The wulfenite is very unusual in two respects: First it occurs in a rather wide variety of colors and with many forms. Second, it has some dark inclusions that defy identification so far. In addition, we found some green material that resembles vauquelinite-fornacite to a gnat's eyebrow! Anglesite, cerussite and willemite, with possibly some vanadinite in minute crystals completes the assemblage. Will keep you posted on developments!"

Sincerely,

Dick

We know, we know. We all want to go to Arizona.

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Peter Leavens of Yale wants to know how to make pedestals stick to the bottoms of the black-painted plastic boxes. "The enamel sticks to the balsa, and pulls away from the box", he complains. "How do you make it hold?"

Well, we don't have that problem to the extent that the rest of you do. Our collection, for the most part, is mounted in oblong cardboard boxes (Rakestraws). But our specialized things - Franklin, N. J.; radio-actives; gold; diamonds; and Langban, Sweden, minerals repose in standard plastic containers. So we go to the five and dime and get pages for photo albums. The stiff paper is dull and black. Cut out squares and cement them to the bottoms. The pedestal holds fine on the paper.

Professional Paper 180, The Minerals of Franklin and Sterling Hill, N. J., by Charles Palache, is again available. Price \$2.00. Check or M.O. to Superintendent of Documents, Government Printing Office, Washington, 25, D.C. This is the Franklin collector's bible.

Recently we obtained from John Albanese, P. O. Box 221, Union, N. J., fine specimens of the following from the Franklin, N. J. area: cahnite, allactite, bementite, clinohedrite, chlorophoenicite, datolite, friedelite, gageite, hodgkinsonite, leucophoenicite, nasonite, prehnite, thomsonite, rhodonite, tephroite, willemite, and primary and secondary zincite. Some wonderful specimens. Some are still available, but are not inexpensive. Much material goes thru the crusher and hammer, and down the drain, before suitable specimens are found. Very often John will purchase an entire collection to get half a dozen things he feels

worthy. That the Smithsonian, Harvard and the American Museum in New York are steady purchasers of his specimens is testimony to his stock and mineralogical judgment.

Paul Desautels has studied the fluorites associated with polybasite from Mexico. These are supposed to show almost every xl form known for fluorite. They occur as superb m/ms, water clear, isolated, euhedral - fabulous. Reported in the July-August, 1960 issue of American Mineralogist. We suggest you subscribe, now. Mineralogical Society of America, U.S.G.S., Washington 25, D. C.

Buy and use a good mineral book.

## BEAUTY FROM OOZE!

By FRANK H. WASKEY  
Oakville, Wash.

The Centralia-Chehalis area in Lewis County of Western Washington has been, for many years, a favorite collecting ground for those who fancy minerals of the quartz family, and fossils.

In the early 1900's carnelian, sard, Jasper and silicified wood was plentiful along many of the streams. Now it is a matter of digging on the side hills and benches, sometimes at depth.

In the Hannaford Valley and elsewhere there are many exposures of sedimentaries rich in large gastropods and other mollusks.

Generally speaking, the fossils are of a different hardness than the enclosing matrices. This makes it difficult to secure good Cabinet specimens suitable for the private Collector.

Infrequently, there are found by persons digging in the over-burden for agates, etc., detached chunks, usually of small size, of a compact close grained rock literally filled with tiny dentalium, pelecypoda, turritella and other marine organisms now of the same hardness as the Matrix. These chunks may be sawed, sanded and buffed to make paperweights and show pieces that are a delight to behold, handle and study. The shells and interiors of the tiny organisms

range in color from a light tan to black, contrasting sharply with the uniform gray or brown of the matrix.

A special effort is being made to secure and prepare a sufficient number of these unique records from the long ago that they may be offered for sale to the readers of ROCKS AND MINERALS.

It is believed that these tiny animals were buried in lenses of ooze along the strand line of some protected bay in an ancient sea.

The rock that has hardened from such an ooze has never been found *in situ* in the area. Another fossil that is a favorite of searchers from all over the Pacific Northwest is the stalk-eyed crab, (*Callianassa porteriensis*) found at Porter Bluff between Oakville and Elma on Route 9 and other exposures in Washington and Oregon. These occur in hard, difficult to open, clay concretions from 3 to 6 inches in diameter, either *in situ* or at the foot of bluffs.

The lucky finder, if he or she can successfully open these nodules, and find therein a whole crab, carapace, claws and all, such person for the time being at least, will be high man on the local Totem Pole.

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## THE AMATEUR LAPIDARY

Conducted by Major George W. Owens, U.S.A.F. (Res.)

Queries and correspondence should be mailed to R&M Attn: The Amateur Lapidary

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### THE AMATEUR LAPIDARY CONSTRUCTS A TABLE AND MAKES A PLAQUE

This issue we will concern ourselves with a table and a plaque for the mineral collector, cabochon cutter or facetter.

Much has been written about displays and cabinets for us stone cutters and collectors. In fact, I have been guilty of one or two such articles myself. Yet, in all these articles, no notice was given to available wall space or if such space could be converted to building in a cabinet or shelves. Many of us are not property owners and cannot readily go about changing designs of houses to suit our needs of the moment. Yet each of us could build a table or coffee table that would show off our gems or minerals to advantage. One such table has just been completed by me and I feel that others would care to share my experience.

If you are a good woodworker you can start out with a few pieces of board and have the pleasure of building the entire table from scratch. But, if you are like I am, you cannot strike a straight line or drive a nail without having the contrary thing either bend over or come out through the side of the board, then you will find listed below the few tools and supplies used by this unhandy man to achieve a thing of beauty:

1. A used second-hand coffee table, minus glass top. (I bought mine at a second-hand furniture store for a dollar.)
2. One piece of plywood, cut to necessary size by the lumberyard.
3. One piece of plate glass, cut to size by the glass firm.
4. One small paint brush and one small can of clear varnish.
5. One hammer and a half-dozen small nails.

6. Part of the cotton "batten" from a roll used to make quilts (available at nearly any department store).

7. Various slabs of agate, jasper, jade, etc.

First, the table was thoroughly washed using a scrub brush and plenty of soapy water. When dry, a coat of varnish was applied. The next day another coat was applied. Not being a woodworker, it looked like a good job to me and was considered satisfactory. After all, the point of interest would be under the glass top.

It was necessary to measure the table for the new top; since the glass was mounted from beneath, the table was turned over, and the inside space measured. Glass was ordered from a local firm. Then the outside of the underneath part of the table was measured and a piece of plywood bought from a nearby lumberyard. When these pieces arrived, it was found that astonishing enough, both the glass and plywood fit perfectly. A length of the cotton bat was then cut to fit the area covered by the glass. This bat was quite thick and beautifully white. After all these preliminaries had been accomplished, all was laid aside except the glass which was gently inserted while the table was upside down on the garage floor. Then the slab boxes were raided for the showiest and best slabs that were available.

These slabs were neatly arranged and rearranged on the glass until a satisfactory design or pattern had been achieved. It was found that several of them would require some trimming or grinding to compensate for the slightly raised edge left by the saw. This was done so that

the slab would lie flat to the glass. None of the slabs were polished. All were of quality materials and ranged in color from opaque white to opaque black. Many represented the very finest of their types. Horse Canyon, California, agate at its best, the finest of fine Mexican agate, a beautiful Montana, a very stunning and colorful slab of wood from Nevada, choice Oregon moss—all were represented and many more. When these slabs were in place on the underneath side of the glass, the cotton bat was carefully placed over the entire lot. This bat was then covered with the plywood, which was nailed in place with a few small finishing nails. Sufficient pressure was obtained on the bat to compress it. which in turn, held the slabs firmly in place against the glass. On turning the table upright, it was discovered that a most beautiful and pleasing effect had been obtained. The cotton bat was pressed in around each slab firmly, and each separate slab could be viewed. The over-all appearance was not only extremely neat and tidy, but also one of beauty.

This table, from start to finish, required little or no skill to convert, was modest in cost, and while it has only been

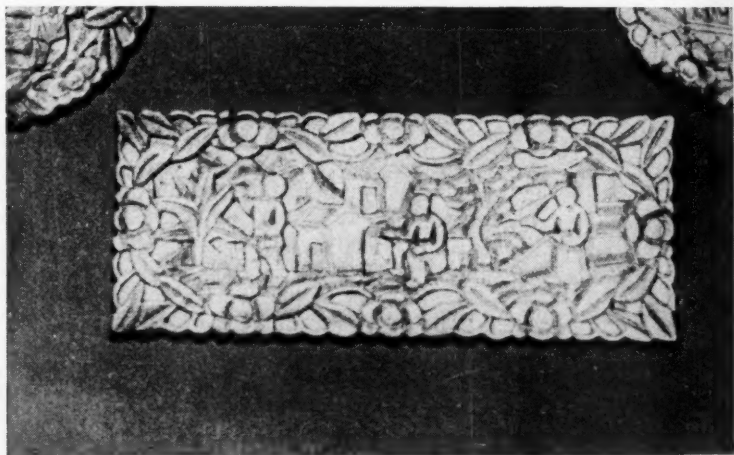
in the "den" a short time, has already caused more comment than many of my finest gems.

By holding the glass in place with small wood strips, deleting the cotton bat, and affixing mineral specimens to the plywood with a cement such as glyptel, an equally successful mineral table could be constructed—and at even less cost! So if you need a display space (and who doesn't?), and can't build a cabinet, why not try a table? When you move, just load it along with the rest of the furniture. It is a convenient and practical way to display those fine slabs or minerals as well as being an acceptable part of the house furnishings.

Another point is that your finest and most precious slabs will be entirely safe from accidental breakage. Why not build such a table?

A few month ago when living close to the famous crystal location of Hot Springs, Arkansas, it was only natural that I would make a few field trips to the various sites and try my hand at "crystal-digging".

The first few trips were in the nature of "dry runs" as good locations are kept secret by the professional diggers, but



Mother of Pearl Carving—68 x 27 mm. Detail is poor in photo but not on the carving.

after a time, several places that had yielded good specimens were ferreted out and some nice crystals obtained. Several of the larger groups were museum grade and quite a few small "plates" of outstanding beauty were recovered. These groups were for the most part stained and dirty on recovery and all needed cleaning, a strong solution of oxalic acid removed the red clay stains and also loosened or removed other minerals from the quartz. A porcelain container, an old battery box or a plastic tub were suitable to use with this acid. The specimens were allowed to soak for several days and then washed using regular tap water.

Now a bountiful supply of fine quartz crystal groups is a pleasure to own but does present some display problems. Some of the small and beautiful plates are outstanding in form. Merely to lay them around on window sills or in with other specimens would detract from their beauty. I tried several methods of displaying these fine specimens so that their best points could be observed without detracting. The display arrangement selected was distinctive in that single groups were so placed as to obtain maximum beauty.

This means of display may or may not be original, but a fine display was achieved by taking a small piece of walnut or mahogany plywood and sawing it in the shape of a shield. Sanding and varnishing was accomplished in the usual woodworking manner.

When the woodworking portion of the project had been completed, several of the most beautiful plates were selected

and the best, according to size and shape, was selected to be mounted on the plaque. The method of mounting was to use small copper wires and drilling tiny holes in the wood. Most plates are very thin and it was possible to tap small holes at the side of the crystal bases. The copper wire was polished and shaped like a U-bolt. It was then inserted over the plate, through the holes in the wood and twisted tightly on the reverse of the plaque. To assure a permanent mount, the wire was then clipped closely to the wood and the ends soldered.

The effect achieved is outstanding and unique. The plaques may be hung at any point on the wall of the den in keeping with the decor or may be affixed to the doors, windows, or cabinets. These plaques also make fine gifts to your friends. The extra work in making the plaque is negligible and the effect achieved is more than worth the trouble. Your friends will appreciate the gift in this form and you may be sure that it will be long remembered.

Several variations of this idea are feasible. Diamond, heart, triangle, and other shapes of the wood are possible. More than one crystal plate can be used. In fact, possibilities are endless.

The pictures will give you an idea of the result. Several of our friends have received these plaques as gifts and the appreciation shown was most gratifying. While this method of display may not be a new one, at least it is new to me and may be new to you. Try it. It is simple to do and the result should be a welcome addition to the collection.

#### OBITUARY NOTICE

##### MISS ALYPIA WENDT

Miss Alypia Wendt of Boonton, New Jersey, passed away in Marquette Michigan, on July 16th, 1960, following an auto accident while on a vacation trip there. Her sudden death came as a great shock to her family and friends.

A member of four mineralogical societies in New Jersey, Miss Wendt served for a num-

ber of years as Secretary to the North Jersey Mineralogical Society at Paterson, N. J. Her work for the Society was tireless. She was loved by all - her thoughtfulness and kindness, her readiness to lend a helping hand - all have endeared her to many friends as well as her family, and her memory will be an inspiration to all who have known her.



#### **Beach sand from Gravina Island, Alaska**

In S.E. Alaska, Gravina Island is separated from the city of Ketchikan by Tongass Narrows (sometimes called the inside passage). From the beach on Gravina (a large island) opposite Ketchikan we have a sand sample that had been collected in 1957 by Lewis K. Moore, 19 Stony Point Road, Clinton, Conn.

The sample is a dark gray, coarse grained sand. It consists chiefly of quartz (green, smoky, brownish, gray and brown chalcedony, brown jasper), and some blackish phyllite.

"Sand collected on Gravina Island on inside passage opposite Ketchikan, Alaska."—on label.

#### **Garnet sand from Bear Mt. Canyon, Ariz.**

Here is an interesting sand sample sent us by Gene C. Falck, 321 N. 35th St., Phoenix, Ariz. It is a grayish, coarse grained sand. It consists chiefly of pale pinkish feldspar, smoky quartz, and dark red gemmy garnet (some of the garnets are nice little crystals). Some lustrous black magnetite (many show crystal faces), and a little black biotite also present.

"Collected by Gene C. Falck, Oct. 10, 1954 from stream running down Bear Mt. Canyon near Mt. Lemmon, below the falls, in Pima Co., Ariz."—on label.

#### **Apatite sand from Paicomo Canyon, Calif.**

C. M. Jenni, 3129 Chadwick Dr., Los Angeles 32, Calif., sent in a most interesting sand sample. It is a lustrous black, moderately coarse sand consisting chiefly of black lustrous biotite with smaller amounts of black lustrous magnetite,

brownish apatite, brownish quartz, and a few grains of brownish zircon that fl. orange under the Mineralight.

"The sand comes from Paicomo Canyon, Los Angeles Co., Calif., an area where many rare minerals are found including allanite and zircon."—on label.

#### **Beach sand from Walkers Beach, Me.**

From Walkers Beach, in Rockport Harbor, Maine, we have a sand sample that was collected for us by Mrs. Olive E. Looney, 67 Talbot Ave., Rockland, Me. The sample is a dark gray, medium grained sand consisting of colorless to smoky quartz, gray to pale brown feldspar, black biotite, silvery muscovite, black magnetite, and sea shells (white, gray, purple).

"Sand from Walkers Beach, Rockport Harbor, Knox Co., Maine. Collected June 19, 1960, by Mrs. Olive E. Looney."—on label.

Rockport Harbor in eastern Knox County of southern Maine is on Penobscot Bay.

#### **Red sand from Perkins, Okla.**

Glen E. Kiser, Douglass, Kans., sent in this sample which is a fine grained, reddish-brown sand consisting entirely of reddish-brown quartz.

"From Hwy 39, 6 miles east of Perkins, Payne Co., Okla."—on label.

#### **Lake sand from Lake Quinalt, Wash.**

Lake Quinalt is in the northern part of Grays Harbor County in western Washington. From the shores of this lake we have a sand sample that had been collected by Arthur W. Browne, 623 Palo Alto Ave., Mountain View, Calif.



The sample is a very coarse grained, dark gray sand consisting chiefly of gray sandstone and smoky quartz with some gray granite and gray schist.

**Rutile sand from Stradbroke Island,  
Australia**

Stradbroke Island, off the east coast of Australia, is 32 miles long and about 10 wide. From a beach on this island we have an interesting sand sample that was sent in by Kelvin Green, YMCA, Pitt Street, Sydney, NSW, Australia.

The sample is a very fine grained, dark gray sand. It consists of dark red rutile, brownish monazite, pinkish garnet, black lustrous ilmenite, black lustrous magnetite, colorless quartz, and colorless zircon that fl. orange.

Stradbroke Island is near Brisbane, the largest city in Queensland, Australia.

**Lake sand from Lake Maria-Chapdelaine,  
Canada**

"Under separate cover I am sending you a sample of beach sand from Lake Maria-Chapdelaine, Que., Canada. The sand was scooped from the largest moose track I have ever seen."—on label of sand which was sent in by Arthur T. Flood, 12 Lawton Ave., Glens Falls, N. Y.

A map of Quebec showing the lake (with sand location) was also sent in by Mr. Flood. The sand was collected at the extreme western end of the lake which is long and narrow.

The sample is a fine grained, dark gray sand consisting of quartz (colorless, brownish, smoky), pink feldspar, black hornblende, and a little black mica.

**Beach sand from Indian Bay Beach  
St. Vincent, B.W.I.**

During the summer of 1959, Mr. and Mrs. C. A. Marshall, 93 Justin Ave., Bay Terrace, Staten Island 6, N.Y., spent 3 weeks on the island of St. Vincent, a British Possession in the Caribbean Sea (British West Indies). Here Mr. Marshall did a lot of collecting, duplicates of which were sent R&M and we hope to describe soon the many minerals found.

One of the sand samples collected comes from Indian Bay Beach on the southern end of the island which is 18 miles long and 11 wide.

The sample received is a fine grained, brownish sand consisting chiefly of sea shells (brownish, white) with small amounts of black, lustrous magnetite, green to dark green olivine, and some gray coral.

**Shell sand from Kings Barns, Scotland**

Kings Barns, in eastern Fifeshire, is on the east coast of Scotland (on the North Sea). From this little village we have a sand sample that was sent in by Sandy Ramsay, 1015 Aikenhead Rd., Kings Park, Glasgow S4, Scotland.

The sample is a medium grained, brown sand consisting chiefly of brown sea shells (nicely water polished)—some white and pink shells also present—plus some colorless quartz and a tiny amount of black magnetite.

"Beach sand from Kings Barns, Fife, Scotland. This, like all the coastal villages in the 'East Neuk' was once a fishing village, but now caters only for tourists."—on label.

**Shell sand from Buccoo Reef, Tobago**

Tobago, an island in the British West Indies, is 26 miles long and 7 miles wide. On the southwestern part of the island is Buccoo Reef a fantastically colored coral reef that is popular with visitors. From this reef we have a sand sample that was collected for us by Carl B. Richardson, 3302 Terra Alta Blvd., Tucson, Ariz.

The sample is a white, coarse sand consisting entirely of white sea shells most of which are very small "grains", the larger grains are complete shells.

"Calcareous (shell) sand from pool 'inside' or behind Buccoo Reef, Island of Tobago, British West Indies. I collected the sand personally in August, 1959, while on a vacation trip."—on label.



## WOMEN'S CORNER OF R & M

Conducted by Winnie Bourne

c/o Rocks and Minerals

Box 29, Peekskill, N. Y.

### Exploring a Cave

Dear Winnie:

Since my husband, Ray, is a geology student at the Missouri School of Mines, here in Rolla, Mo., you can bet your life this little wife who never knew one rock from another sure knows them now. I never knew rocks could be so interesting. I especially like exploring caves. My husband and I and four other geology students left one Friday night about 9:30 p.m., to explore a cave. We went at night because the inside of the cave is perpetually dark, day and night.

There was a big wide opening to this cave with water flowing into it. We waded through the water, which was about a foot deep. We all had carbide lights and went way back into the cave where there was a side passage. We stepped into mud that was a foot deep, lowered our heads so that we wouldn't bump them (I bumped mine plenty of times), and walked sideways through the part of the cave that was so narrow. One of the boys wanted to take a picture of us down below. I was to be in one of the pictures as a scale to sort of show the bigness of the cave and the size of some of the formations but I was so tired from my walking and dodging and stooping that I couldn't hold still for the picture. I don't think the picture turned out good as I must have moved (haven't seen it yet).

We continued on and now we were completely covered with mud and water. I kept losing my shoes so many times I finally decided to take them off but

after stepping on a few sharp rocks the shoes were back on my feet again. The mud was knee-deep now and in one place my husband had to carry me—and the mud was over his knees. Once he got his feet caught so that he couldn't even walk. It sure would have been something if he had dropped me! But he didn't. Now I don't even want to think of it. And we went through that procedure twice! Walking up through mud sure proved harder than walking down it. In one place I had to take a running leap up it and it didn't work—my husband had to push me up. Going down, well I just slid and I do mean—slid!

Inside the cave were many different formations of rock and a lot of them looked like icicles. The stalactites hung down, the stalagmites projected upwards. Such a beautiful sight!

One of the boys tried to wake up one of the many bats that we saw hanging down from the roof, and asleep. He didn't succeed so he playfully knocked it down besides me. It didn't hurt the bat but it scared me to death.

Well it was almost 1:00 in the morning so we decided to call it quits. We were a mess, covered with mud and water, tired and sleepy, but we sure did have fun. This truly ended another happy day, geologically speaking, for my husband and me.

Lots of luck, Winnie, in your column.

Mrs. Ray Lasmanis  
206 South Rucker  
Rolla, Missouri.



## Fossil Department

Short items on fossils and their localities are wanted.

Please send them to the

Fossil Department (Rocks and Minerals), Box 29, Peekskill, N. Y.



**COLORADO**—"I want to tell you that this past year I have traded and sold some of the cephalopods (*baculites*) of which I wrote you about a year ago. I have more of them, and find more as the spirit drives me. They come from a deep gulch cut thru the foot hills about 5 miles south of Colorado Springs (El Paso Co.), Colo. The gulch is now easily accessible because of the new highway."—recent item received from L. A. Walters, 2007 N. Tejon St., Colorado Springs, Colo.

**ILLINOIS**—Illinois State Geological Survey, Urbana, Ill., has recently released a most interesting field book titled: "Pennsylvanian Plant Fossils of Illinois", by Charles Collinson and Romaine Skartvedt (illustrations by Marie E. Litterer). It is a well illustrated 35 page publication and is priced at 25¢ a copy.

**INDIANA**—Indiana Geological Survey has released "Fossils: Prehistoric Animals in Hoosier Rocks", by T. G. Perry.

This handbook was prepared to stimulate interest in fossil collecting and to acquaint collectors with the characteristics of the major kinds of fossils that may be found in Indiana's rocks. Scientific terms are defined simply and locations of some excellent fossil-collecting sites in Indiana are given. Most of the illustrations are of fossils that collectors may find in Hoosier rocks. This handbook should appeal especially to high school students interested in earth science and to their teachers, to the seasoned collector, and to the person desirous of pursuing an inexpensive out-of-doors hobby.

Handbook contains 83 pp., 19 figs., and costs 40¢ per copy (plus 10¢ postage). Obtainable from Publications Sec-

tion, Geological Survey, Indiana Department of Conservation, Indiana University, Bloomington, Ind.

**KANSAS**—"Am sending by separate cover a few fossil shells picked up in Kansas in 1949. I do not know the name altho they are not rare. They come from the Missouri River bluff, along the road from Highland to the little village of Iowa Point (Doniphan Co.), in extreme northeast corner of Kansas."—a recent item from Ralph A. Clutter, 133 E. Penn Ave., Escondido, Calif.

Seven loose dark gray brachiopods (fossil shells) were received—very nice specimens.

**MINNESOTA**—Miss Josephine F. Cowern, 1700 University Ave., St. Paul 4, Minn., sent in a number of shells, all dark gray, loose, and of good quality. The fossils include gastropods, brachiopods, bryozoans, finger sponges, and crinoids (rings and stems).

"From Decorah shale and Platteville limestone formations on bank of Mississippi River at St. Paul (Ramsey Co.), Minn."—on label.

What a fascinating locality this must be in St. Paul to produce so many interesting fossils. Some day, when we are in St. Paul again, we will try to induce Miss Cowern to guide us to it.

**NEW YORK**—"By separate mail I am sending a fossil of a type of shell which isn't rare for this area but you still have to hunt for them. What is it?" It was found in Jenksville (Tioga Co.), N.Y.

"I have a large supply and variety of fossils (mostly shells) from Tioga Co. I find myself overbalanced—not enough

minerals and too many fossils—so any invitation to trade will be appreciated.”—item dated May 9, 1960, from Craig Burton, Box 41—RD 2, Berkshire, N. Y.

A very nice specimen was received from Mr. Burton. It consists of dark gray brachiopods (fossil shells) on dark gray shale.

OHIO—“Everyone who reads about the brachiopods of southwestern Ohio has heard of the beautiful specimens found at Huffman Dam not far from the city of Dayton, (Montgomery Co.). But on Route 4, about 6 miles west of the city, is a deep road cut where anyone can easily pick a quart of excellent fossils, many with geodes inside, per hour.

“An unusual find of perfect brachiopods (fossil shells) which measure from  $\frac{1}{4}$  inch in diameter to a size which cannot be seen clearly without a magnifying glass, is located in a stream bed about  $\frac{1}{4}$  mile behind the Fort Ancient Museum. Anyone coming to see the beautiful State Park can easily kill two birds with one stone.

“Anyone who wishes more detailed information will get an answer by writing to me, as there are scores of ‘happy hunting grounds’ which I cannot take up the space needed to describe them. Just enclose with your letter a self-addressed stamped envelope.”—letter dated April 12, 1960, from Andrew Page, 437 Santa Cruz Ave., Dayton 10, Ohio.

OKLAHOMA—“The Dolese Bros, Richard’s Spur quarry, north of Lawton (Comanche Co.), Okla., has a number of Cambrian-Permian vertebrates in a clay in the ancient sink hole surface of the Cambro-Ordovician limestones in the quarry, and in a few places it is possible to find very nice calcite xls up to a cm. or so. *Advance* permission must be gotten before entering the quarry.”—item sent in by Bill Hiss, 524 W. Symmes, Norman, Okla.

PENNSYLVANIA—“Here is an entry which may be of use in the Fossil Dept. of R&M.

“There is a Devoian coral reef on Route 90 north of Stroudsburg, Monroe Co., Pa.



The Devonian Reef. Located 3 miles north of Stroudsburg, in the Pocono Mts., Monroe Co., Pennsylvania.

"To reach the coral reef from the intersection of Routes 196 and 90 south of Analomink, Pa., go south on Route 90 about 1/2 mile—it is the first road cut."—item dated May 1, 1960, from Mrs. Violet Litts, 21 Park St., East Stroudsburg, Pa.

TEXAS—"Under separate cover I am sending you a specimen. This was picked up on a hill where it could have been petrified white cedar. Several people have given it a different name. Please inform me what it is? It was found in Mason County, in the Streeter area of central Texas. The locality is west of the village of Mason, deep in the heart of Texas."—item sent in by Mrs. J. M. McLeomore, Box 42, Katemcys, Texas.

The 4x4x4 inch specimen received is

a fossiliferous coral limestone, gray in color but stained brown by iron.

WASHINGTON—Frank H. Waskey, Oakville, Wash., sent in a beautiful, tumble-polished fossil specimen which comes from the Centralia-Chehalis area of Lewis County in western Washington. It is 1x3 inches in size, of a dark olive-green color and simply crowded with pale brown turritella shells (snail shells) of various sizes.

WALES—"Trilobites and crabs can be found at Pen-y-lan quarry in Cardiff, Wales. The series consists of a reddish-brown mudstone of Silurian age. The Silurian system was named after the Silures, an ancient tribe that inhabited South Wales."—item sent in by Alan Morgan, 30 Porthkerry Rd., Barry, Glam., South Wales.

## SOMETHING NEW ADDED—IN NEW YORK!!

In a rather upset world it is good to know that there are people who are still of the kind that keep alive the good old spirit of kindness and brotherhood. Such a thing happened recently when on the way to Hadley, N. Y. we stopped at "Overlook" and at once saw that something new had been added.

This is what we found—three piles of minerals all nicely labeled. One of talc from Gouverneur, N. Y., one of chalcopyrite, and the other of pyrrhotite and pentlandite; the latter two from Sudbury, Ont., Canada. There was no name of the person leaving them but I know I must be one of many who are very grateful to him.

"Overlook" is situated on the east shore of Sacandaga Reservoir about twenty-five miles north of Batchellersville, N.Y. The collecting area (the dump of a small quarry worked some years ago), is in a semi-circle very near the road on the side toward the "lake".

The amateur collector can easily find good fragments of black tourmaline, white and pink feldspar, rose quartz (not very deep in color), smoky quartz

(ranging in color all the way from gray to black), milky quartz, muscovite and biotite mica, fine specimens of graphic granite and, interesting and attractive combinations of many of these. The advanced collector could probably add to the list.

According to the grandson of the owner, the pit was filled to prevent accidents. The grandson said that anyone can collect there but that all dug holes should be refilled and that no one should chip in the massive vein of rose quartz near the road. Both of these restrictions have been disobeyed. Let us hope that such things do not lead to the closing of the area.

The three piles of minerals mentioned above were placed on the ground quite near the road in plain sight from it. It is seldom that one visits the spot without meeting other collectors there and some good trades and nice friendships result.

Adin W. Van Wie  
Blaine Road  
Canajoharie, N.Y.

# CURRENT EVENTS

of the

## EASTERN FEDERATION OF MINERALOGICAL AND LAPIDARY SOCIETIES

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Baltimore 7, Md.

### SECRETARY

Roy E. Clark  
Box 607  
Newport News, Va.

To the Eastern Federation of Mineralogical and Lapidary Societies:

Great is the honor which has been conferred upon me through election to the Presidency of the American Federation of Mineralogical Societies. It would be unfair, were I not to properly and justly share this honor with my own Eastern Federation for being allowed to serve that fine organization as the ladder which led to the top.

During my terms in three other offices in the A.F.M.S., I have been justifiably proud of the part which the Eastern Federation, its officers and members have played in National affairs. Harry L. Woodruff preceded me through four offices in the American Federation, was the daddy of the Scholarship Foundation and furnished the first of the National Competitive awards. Of the eight present National awards, six were donated by Eastern Federation past presidents and societies. The first Society contribution to the Scholarship Foundation was made by an Eastern Federation club and has not, as yet, been surpassed in amount. The Eastern Federation has, this past year, furnished important National committee members and Chairmen. Harry L. Woodruff headed the Scholarship Foundation Committee; Elsie Kane White headed the committee on Organization Aids; Louis Eaton Shaw the Rules Committee; Grace D. Dearborn was in charge of the program to obtain a commemorative stamp and I was entrusted with chairmanship of the Finance Committee and was National Show and Convention Coordinator.

In accepting this high position, I did so with a full awareness of its great responsibilities. The A.F.M.S. now has 525 affiliated Societies, representing some 31,000 individual members. It is growing in size and importance rapidly, as are its services to its member Federations and its affiliated clubs. Its annual meeting at Eureka this year was an inspiration as the reports of its many functioning committees were presented and efficiently acted upon.

Any attempt to live up to the record set by the immediate past President, Mrs. Helen M. Rice, of Hillsboro, Oregon, would be a real challenge, but the Board of Directors elected an outstanding group of officers to serve with me and with their able assistance, I shall do my utmost to make the coming year a banner one for the American Federation.

HENRY B. GRAVES  
President

### New American Federation Officers

Elected at the American Federation convention at Eureka, California, on July 7, 1960, with Henry B. Graves, of Miami, Florida, representing the Eastern Federation, who became president, were: Russell Trapnell, Vice-President, of Phoenix, Arizona who represents the Rocky Mountain Federation; Mrs. Veryl Carnahan, Secretary, of Whittier, California, representing the California Federation; Mr. H. R. Hughes, Treasurer, of McAllen, Texas, representing Texas Federation; William H. de Neui, Regional Vice-President, of Minneapolis, Minnesota, representing the Midwest Federation; and



Albert Keen, Regional Vice-President, representing the Northwest Federation, of Portland, Oregon, Ben Hur Wilson, of Joliet, Illinois, was re-appointed Historian.

#### **Eastern Winners in National Competition**

Mr. W. E. Merritt, Jr., 109 Grace St., Mt. Airy, North Carolina, won the Henry B. Graves National Award for Faceted Stones. He is a member of the Southern Appalachian Mineral Society and got his first lesson in faceting from Mrs. Maxine Graves at the Eastern show at Old Point Comfort in 1957. His qualifying blue ribbon was won at the Asheville show in 1958.

Second Place (red ribbon) in General Lapidary (Junior) was won by Gene Pederson of Miami, Florida, a member of the Gemcrafters of Miami.

As there was no classification for juniors in faceted stones under California Federation Rules, the faceted gem collections cut by Randy Stockton of Fort Lauderdale, Florida, and of Steven Jenkins of Miami, were entered, at the special request of the California Federation Committee, as non-competitive displays, and each was awarded one of the Special Award ribbons which were given to outstanding special displays. Both of these lads are Junior Members of Gemcrafters of Miami and are aged 9 and 12 respectively. Great interest was created in the abilities of Eastern Federation juniors through these three displays.

#### **1960 Earth Science and Gem Show September 24 and 25**

The Mineralogical Society of Pennsylvania announce its 1960 Earth Science and Gem Show at the 111th Infantry Company "D" Armory, 97 Shewell Avenue, Doylestown, Pa., on Saturday and Sunday, September 24 and 25. Hours will be from 1 to 10 P.M. on Saturday and from 10 to 6 P.M. on Sunday. This show date is one month earlier than usual, and unfortunately notice was received too late for previous publication.

#### **Newest Federation Member Societies**

Catawba Valley Mineral Society, of Gastonia, N. C.

Central Virginia Mineral Society, of



**Henry B. Graves, newly elected President of the American Federation of Mineralogical Societies, 3153 N. W. 27th St., Miami, Fla.**

Lynchburg, Va.

The Chautauqua County Gem and Mineral Society, of Dunkirk, New York

The Highlands Mineral Society, Highlands, N. C.

Matinecok Gem and Mineral Society, of Richmond Hill, Long Island, N. Y.

Moore County Rockhounds Club, Inc., of Pinchurst, N. C.

Northland Rock and Mineral Club, of Lake Placid, New York

Westchester Mineral and Gem Society, of Yonkers, New York

#### **What Goes With Our Clubs**

*The Alabama Mineral and Lapidary Society*, of Birmingham, enjoyed a verbal report of its two-day field trip to the Ruby Mines in North Carolina by Mrs. Kate Dunning at its May meeting. Her impression of the first day was lots of cold rain and mud, although everyone found specimens of rubies and sapphires. G. H. Bitt found the largest ruby, the size of a shirt button, and Paul Kontzen the best one. Samples of smaragdite and corundum were found on top of a nearby mountain the second day.

*The Huntsville Gem and Mineral Society*, of Alabama, held its first annual meeting July 10 in the State Park on Monte Sano. The picnic-business meeting followed an exhibition of gems and minerals the society opened to the public at the Burritt Museum from 2 to 6 P.M. The Society has been asked to set up a permanent display at this museum.

*The Danbury Mineralogical Society*, of Connecticut, are working on a new project, assembling a collection of Connecticut minerals for the Scott Fanton Museum. Mr. and Mrs. George Braun of Ridgefield showed films of mineral localities taken during a cross-country trip at a recent meeting, with Mr. Braun describing the minerals obtained. Mrs. Emmett Close of Newton was in charge of the social hour that followed.

*The Gem and Lapidary Society* of Washington, D.C. held its annual show on Saturday, June 11, well attended and declared one of its most successful. A recent field trip to the Goose Creek area in Virginia netted some nice finds, including pigeonite crystals and a nice piece of green prehnite with apophyllite crystals.

*The Gemcrafters of Miami* in Florida viewed some 70 color slides at its May meeting covering the Texas-National Show at Dallas of 1958 and the Eastern Federation Show at Boston of 1959. Henry B. Graves, its president, gave a brief chalk-talk emphasizing the value of variety in cuts as effecting earning points in competitive showing. In June the members visited the plant of the Florida Onyx Corporation in Hialeah, spent an interesting hour viewing the operations of this new South Florida industrial establishment which produces a wide variety of items from both foreign and domestic onyx. Later in the evening, back at its meeting hall, there was a member-participation discussion on Caxoxinite and its use.

*The Miami Mineral and Gem Society* had Robert Fidlar speak on Meteorites in May, using slides and some very fine specimens for illustration. This society

has purchased some lapidary equipment for the use of its members, to be loaned on a weekly basis. Two non-competitive displays of Florida materials and agatized coral specimens and coral jewelry were planned for the Asheville show.

*The Miami Mineralogical and Lapidary Guild* had a talk by Leo Hauser at its May meeting on the Best Places to Go Rock Hunting in N. C. who exhibited rough and finished material from sites mentioned. The Spectors showed movies in June of their trip to the Texas Federation Show and the exploration of a New Mexico mine. The Guild expected to move to its new home at the Museum of Science and Natural History in Aug. and reported its show chairman busy preparing a club entry for the Asheville show. A field trip was held in July near Kendall to collect calcite. George Bethel was scheduled to tell about and show slides of his recent experience prospecting for gold in Colorado at the August meeting.

*The Georgia Mineral Society* of Atlanta planned an agate hunting trip near Cartersville in July, where President Frank Gleason promised "agates for all and the best this side of the Mississippi River". Miss Erna Mason announced a "Surprise" meeting for the Gem Club on July 18.

*The Gem Cutters Guild of Baltimore*, Maryland, had a record breaking attendance of 135 at its June meeting to hear its Past President John M. Wise speak on the Value of Precious and Semi-precious Gems and How to Evaluate them Yourself. June field trip was a hunt for jasper at Caledonia, Pennsylvania, and to another location in Pennsylvania in July for gem serpentine. Program for the July meeting included an open forum on lapidary problems, panelists being Earl Williams, Glenn Adriance, Edward Geisler, Benjamin Schmidt and Tony Bonanno. Color slides were also shown of exhibits from its April show.

*The Boston Mineral Club* of Massachusetts had a lecture on Sulfur and some associated minerals from Sicily and

other Italian Islands by Dr. Gabor Dessau of the University of Pisa, Italy, at the first of its May meetings. Dr. C. Wroe Wolf, Professor of Geology and Mineralogy at Boston University spoke on xl Growing by Refrigeration of various solutions at the second. For June, Rev. Bertram M. Heald, D. D. spoke on Gems and Minerals of the Bible, illustrating with color slides and choice specimens.

*The Keene Mineral Club* of New Hampshire held its annual meeting in June at the home of Mr. and Mrs. J. Cummings Dort on Silver Lake. Following a picnic supper, Mrs. Clinton Davis was elected president at a brief business meeting. Mr. S. Reed became vice-president; Robert Smith, treasurer and Mrs. Julian Wetherbee, secretary. The program for the evening included an article from *The Natives are Restless* by Cynthia Lindsay taken from *Sports Illustrated*. This humorous piece was read by Dwight H. Carle. Then Mrs. Wetherbee showed about 60 slides of some of her minerals, plus some of the Federation show in Boston and some views of a vacation trip taken by the Reeds.

*The Newark Mineralogical Society* of New Jersey heard about Metamorphic Rocks in May, Dr. Kemble Widmer, State Geologist of New Jersey being the speaker. This was the third of the series of direct geologic interest. The film *Producing America's Buried Treasure* of the Georgia Marble Company was shown following the lecture. Michael F. Kidzus, a member of the society, showed slides and discussed the various collecting areas in New Jersey at the June meeting. In keeping with the anticipated Eastern Federation meeting, the film *North Carolina Variety Vacation Land* was also shown. During the last year this society has acquired many new members, and to add interest to its program, George Venturini is developing new collecting areas as field trip chairman. For July a trip was scheduled to hunt blue and pink corundum, sphe, diopside, chondrodite, talc, rutile, among other minerals.

*The Newark Lapidary Society* is the

proud holder of the Bronze Plaque awarded for the most attractive lapidary display at the recent gem and mineral show of the 5 New Jersey societies. The purpose of this show was to bring to the attention of the public the advantages and pleasure of the hobby and to create a membership interest in the clubs, showing the scope of their activities.

*The North Jersey Mineralogical Society* won the plaque for the most attractive mineralogical display in the New Jersey show.

*The Monmouth Mineral and Gem Club* of New Jersey showed color slides at the April meeting of the Western convention held in Dallas, Texas of 1958 and of the Eastern Federation show at Boston, Massachusetts in 1959. Also slides taken by several members on the society's trip to the American Museum of Natural History in New York in March. April field trip was a carnelian hunt at Stirling Brook, Watchung. The Lapidary Chairman was in charge of the May meeting, and three machines were set up. A film on diamond mining in Africa was shown in June. While it holds no meetings in July and August, several field trips were planned. This was one of the 5 sponsors of the New Jersey Mineral and Gem Show.

*The Fulton County Mineral Club* of New York, at a May meeting viewed a display of gems from India by Owen Parsons, with Louis Valachovic giving a report on Connecticut field trips. An exploring trip to that state was taken by the field trip director to sound out areas that the club might visit. John Maderic was the speaker, introduced by Ray Hladik, who gave an excellent, humorous account of mining experiences, being a gold and mica mine owner and former owner of the Palermo, N. H. mine. At the May 23 meeting Vivian Hough gave a report on a field trip to Willsboro, New York, for colophonite, a variety of andradite garnet, and wollastonite. Alvin Snyder, of Oriskany, new president of the newly formed Mohawk Valley Geological Society, which meets at Hamilton

College, was a visitor at the June 20 meeting. At the June 27 meeting several reports on a Moodus, Conn., weekend were given: Ara Dildilian giving an excellent humorous account, displaying nice specimens of pegmatite rock with green beryl and black tourmaline. Lou Valachovic reported that many rockhounds visited Mt. Tom and Josephine Van Tassel described a tenting trip on which she was joined by her husband and the Cuyler Dades. Owen and Shirley Parsons won the door prizes at Moodus. President Andrew Palmer reported that he attended a session for club presidents at which time all matters concerning all clubs were discussed, including insurance, reciprocal speakers and monthly bulletins. Hollis Whipple told of a trip taken by Bob Bedford, Felia Siarkowski and himself on June 26 to the Schoksie area and Middletown. White celestite, fossils, selenite, calcite and andradite garnet were obtained.

*The Lapidary and Gem Society of New York* had Mr. Don Parser of the well known firm of A. G. Parser talk about his trip to Russia at its May meeting, which he illustrated with slides. He mentioned that he saw very little jewelry worn in Russia. As a consequence apparently there is no mining for gemstones. The gem materials produced are by-products of mining for commercial minerals. Whatever gem materials were offered he felt were highly overpriced and of a quality below Western standards. At this meeting several members reported on a club field trip to the Herkimer "Diamond" location which was well attended and very successful.

On June 8 Paul Krotka, one of the youngest members of the club, told the story of his collection which is a very respectable one even though only four years old. On July 18 a field trip took place to Bound Brook and Stirling Brook. It was well attended and fine material was found. Walter Stone had the best luck with a palm-sized piece of fine red carnelian. At the June 22 meeting, President Rothstein showed maps on slides of

the collecting spots which may be visited on the way to Asheville. Henry Gompers, Vice-president, showed slides taken on the recent trips of the club.

*The Rockland County Mineral and Gem Society of New York* heard Mr. Ed Platt of Technicraft Lapidaries, Inc., a dealer with many years experience in availability and handling of gems and minerals, speak at its May 27 meeting. His presentation covered structures, orientation of gemstones, grinding and sanding, illustrating some of the most recent innovations. Field trip for June was to the Woodbury, Connecticut Trap Rock Quarry, where permission was granted for a visit. Specimens to be found are datolite, prehnite and pectolite. On a two-day trip to Keene, New Hampshire, July 2 and 3, to hunt fluorite, staurolite, beryl and tourmaline, two members of the Keene Mineral Society volunteered to act as guides. Among the exciting finds were amethyst crystals, prehnite, red stilbite with flat radiating crystals, and at Thomaston Dam white barite, galena, crystal pyrite and wonderful fluorite from light blue to deep purple, stilbite and black biotite. Mr. Baker found a very fine black tourmaline which measured five inches.

*The Mineral and Lapidary Society of Pittsburgh, Pa.*, held its annual meeting in June, with a gala evening planned for the election of officers, including a movie, display of latest acquisitions and creations of members, followed by party refreshments. A field trip for the month was scheduled to Fairfax, West Virginia, to collect fossils. A picnic was set for July at the home of Mr. and Mrs. Paul Aitkenhead. A corn roast at the summer home of the George Winslows on Deep Creek Lake, in Maryland, was planned for August. Members have started preparing an exhibit the Society has been invited to have at the Buhl Planetarium in its Opticon Gallery from December 3, 1960, to January 1, 1961.

*The Mineralogical Society of Pennsylvania* report threatening weather did not deter 146 members, their families

and friends from attending the field trip to the Bethlehem Steel Company's Quarry at Bridgeport in June. Many fine mineral specimens were found. John Moreton found very unusual quartz crystals showing steps on the sides of the larger crystals; Marilyn Moreton collected round (hexagonal) calcite crystals with three faces on the top; Robert Eisenhauer found talc and beautiful quartz xls; Jim White, a guest of the MacFarlands, found needle quartz crystals in slabs about 12 by 15 inches as well as red jasper and chert; Leighton Donley obtained some fine "nailhead" or "butterfly" calcites in honey-brown and Leonard E. Gerhart found some colitic limestone. Gene and Charles Belz collected the largest specimens of the day, several 50 to 80 pound pieces of fine-grained dolomitic limestone.

July meeting was planned at the Cornwall Mine, where special permission was secured for entrance to the iron ore mine, where since 1792 the first ore body has been mined continuously. The mine supplied ore to the charcoal furnaces which made cannon and ammunition for George Washington and his Continental Army during the American Revolution.

*The Western South Carolina Gem and Mineral Society* of Greenville held a gem and mineral show in June and feel justly proud of the exhibit of gems and minerals displayed by members, with the hall filled with members and visitors. Fred Allen, Jr., of Lincolnton, N. C., publicity chairman for the Asheville Convention and Spruce Pine Mineral and Gem Festival was the speaker of the evening, giving much interesting information about both events. The society also planned 3 displays for the Asheville show. Program for July included Mr. Chuck Wuest who spoke on The Magic of Fluorescence, and a field trip to the Cowee Valley Ruby Mines at Franklin, N. C., to hunt rubies and sapphires.

*The Gem and Mineral Society of the Virginia Peninsula*, at Hampton, had a color film on Tin with literature furnished by the Institute of Tin Research in

June. The Pebble Pups, junior group, also had a film on Tin for its meeting. A Family Picnic was scheduled for July meeting at the home of Betty Ennis in Hampton, with color slides to be shown after dinner. The Juniors viewed pictures of winning exhibits taken at past shows for its meeting. This society was invited to join the Norfolk Gem and Mineral Society on a field trip in July to Mineral, Virginia.

#### **Au Revoir**

Concluding my second term as editor of **CURRENT EVENTS**, I thank all societies for their cooperation, with very special thanks to Mr. Peter Zodac, Editor of **ROCKS AND MINERALS** for his fine cooperation, who have made it a pleasure to serve in this capacity. Best wishes for continued success to all of you.

Elsie Kane White,  
Editor of Current Events

#### **Member Societies of Eastern Federation (Secretary and Meeting Date)**

##### **ALABAMA**

Alabama Mineral and Lapidary Society  
Sec'y - Mrs. Daisy E. Dunning, 2312  
Avenue F Ensley, Birmingham  
2nd Fri. 7:30 P. M., Birmingham  
Southern College, West Birmingham  
Huntsville Gem and Mineral Society  
Sec'y - Donald A. Morgan, 1415 Beach,  
Decatur  
Members Homes - Huntsville

##### **CANADA**

Walker Mineralogical Club (of University of Toronto)  
Sec'y - Miss Jane McRae, 100 Queen's  
Park, Toronto 5, Ontario  
3rd week, Oct. thru May, The Royal  
Ontario Museum

##### **CANAL ZONE**

Canal Zone Gem and Mineral Society  
Sec'y - Mrs. Marjorie Tilley, Box 333,  
Diablo Heights, Canal Zone  
2nd Fri. business, 4th Fri. program,  
7:30 P.M. - Building #57, Balboa

##### **CONNECTICUT**

Danbury Mineralogical Society  
Sec'y - Mrs. Carl Peterson, Old Long  
Ridge Rd., Stamford  
4th Thurs. 8 P.M. except July & Aug.,  
War Memorial, South St., Danbury



### Litchfield County Mineral Club

Sec'y - Miss Sylvia R. Wadhams, 750  
Migeon Ave., Torrington  
1st Thurs. except July, Torrington Con-  
gregational Church

### DISTRICT OF COLUMBIA

The Gem and Lapidary Society of Wash-  
ington, D. C., Inc.

Sec'y - Miss Cynthia Czapek, 5305 Iro-  
quois Rd., Washington 16, D. C.  
2nd Sat. 8 P.M., Chevy Chase Rec-  
reation Bldg., Connecticut Avenue  
& McKinley St.

Mineralogical Society of the District of  
Columbia

Sec'y - Mrs. W. B. Van Wagner, 3007  
N. Rochester St., Arlington 13, Va.  
4th Sat. 8 P.M., Room 43 Museum of  
Natural History, Constitution & 10th  
St., Washington, D. C.

### FLORIDA

Gemcrafters of Miami

Sec'y - Mrs. Margaret S. Harley, 1438  
N. W. 100th St., Miami, 47  
1st Tuesday - Individual homes ac-  
cording to alphabet

The Jacksonville Gem and Mineral So-  
ciety

Sec'y - Mrs. Nellie W. Rowlands, 5001  
Phillips Highway  
1st Thurs. Jacksonville Public Library,  
Southside Branch, 1565 Hendricks  
Avenue

Miami Mineral and Gem Society

Sec'y - Mrs. James E. Hogan, Rt. 1,  
Box 472, Miami 44  
2nd Mon. 8 P.M. - Eastern Star Hall,  
2833 Bird Ave., Coconut Grove, Fla.

Miami Mineralogical and Lapidary Guild

Sec'y - Mrs. Margaret Glasscock, 422  
Woodcrest Rd., Key Biscayne, Miami  
4th Mon. Museum of Science and Na-  
tural History, Vizcaya, Miami

### GEORGIA

Georgia Mineral Society

Sec'y - Miss Janie P. Morris, P. O.  
Box 7052, Atlanta 9  
1st Mon. (3rd Mon. Gem Club) 8  
P.M. - Geology Bldg., Emory Uni-  
versity, Atlanta

### KENTUCKY

Louisville Craftsmen's Guild

Sec'y - Miss Margaret Mongiat, 3413  
Stratford Ave., Louisville 5  
1st Mon. 1453 St. James Court

### MAINE

Oxford County Mineral and Gem Associ-  
ation

Sec'y - Mrs. Stuart Martin, Rumford  
Point

3rd Mon. 7:30 P.M. - Members homes

Pine Tree Gem and Mineral Association

Sec'y - Mrs. Freda C. Thomas, Roxbury  
1st Sat. during school year Swift River  
District School Bldg. 7:00 P.M.  
1st Monday in summer

### MARYLAND

Baltimore Mineral Society, Section of  
Maryland Academy of Sciences

Sec'y - John Jedlicka, 4604 Seifert Ave.  
Baltimore 6

1st and 3rd Fri. 8 P.M. - Towson  
State Teachers College, Towson, Md.

Gem Cutters Guild of Baltimore, Inc.

Sec'y - Miss Dorothy T. Rice, 2307  
Eutaw Place, Balto. 17

2nd Tues. 7:30 P.M. - Roosevelt Park  
Recreation Centre, 36th St. and Falls  
Rd.

Maryland Lapidary Club

Sec'y - Mrs. Ann McAllister, 1415  
Druid Hill Ave., Balto. 19  
3rd Sat. 11 A.M. - Room 43, Smithson-  
ian Museum, Washington, D. C.

### MASSACHUSETTS

Boston Mineral Club

Sec'y - Mrs. Alexander Nadolny, 71  
Charter St., Boston

1st Tues. 8 P.M. except July & Aug. -  
Boston University, 725 Common-  
wealth Ave. (Rm 12)

Northern Berkshire Mineral Club

Sec'y - Miss Betty Stevens, P. O. Box  
54, North Adams, Mass.  
3rd Mon. 8 P.M. - YMCA, Summer  
Street, North Adams

Westminster Mineral Club

Sec'y - Mrs. Eloise West, 199 Fisher  
Rd., Fitchburg  
4th Thurs. Westminster Mineral Club,  
Minot Rd., Westminster



### Worcester Mineral Club

Sec'y - Miss Patricia Baker, 21 Bennett St., Hudson

1st & 3rd Mon. 8 P.M. - Worcester Natural History Museum, 21 Cedar St., Worcester

### MISSISSIPPI

Mississippi Gem and Mineral Society, Inc.

Sec'y - Mrs. R. H. Naylor, 961 Parkwood Place, Jackson

Last Fri. 7:30 P.M. - Millsaps College, Geological Dept., Jackson

### NEW HAMPSHIRE

Antrim Area Mineral Club

Sec'y - Mrs. Dorothy M. Moore, P. O. Box 285, Antrim

Last Sat. - Antrim Elementary School

Keene Mineral Club

Sec'y - Mrs. Julian Wetherbee, 22 Wheelock St., Keene

1st Sat. Blake House, Keene Teachers College

Southeastern New Hampshire Mineral Club

Sec'y - Mrs. Evelyn B. Blake, Kittery Point, Maine

2nd Wed., except July & Aug. - Ladies Lounge, Municipal Building, Dover, N. H.

### NEW JERSEY

Monmouth Mineral and Gem Club

Sec'y - Mrs. Naomi McGregor, Horse-neck Point, Oceanport

2nd Thurs. 7:30 P.M. - Youth Center, Fiske St., Fair Haven, N. J.

Newark Lapidary Society

Sec'y - Mrs. Jean A. Gill, 241 Conant St., Hillside 5

3rd Thurs. 8 P.M. - Newark Museum, 49 Washington St., Newark

Newark Mineralogical Society, Inc.

Sec'y - William H. Clinton, 28 Hawthorne Ave., East Orange

1st Sun. 3 P.M., Oct. thru June - Newark Museum, 49 Washington St., Newark

North Jersey Mineralogical Society

Sec'y - Mrs. Robert Outwater, 140 Perrin Avenue, Pompton Lakes

2nd Thurs. 8 P.M. - except July & Aug. - Paterson Public Library, 250 Broadway, Paterson

### West Essex Mineral Club

Sec'y - Mrs. Mary C. Freeman, 5 Woodrow Place, West Caldwell

4th Wed. 8 P.M. - Members Homes and at Science Hall in Caldwell College

### NEW YORK

The Brooklyn Mineralogical Society

Sec'y - Nils Stark, 847 - 71st St., Brooklyn 28

2nd Thurs. 8 P.M. - 8002 19th Avenue, Brooklyn

The Geological Section of Buffalo Society of Natural Sciences, Inc.

Sec'y - Mrs. Lorna W. Schram. All correspondence to Geological Section, BSNS, Buffalo Museum of Science, Humboldt Park, Buffalo 11

1st Fri. 8 P.M. - Buffalo Museum of Science Oct. to May

Capital District Mineral Club, Inc.

Sec'y - Miss Pauline G. McGonigal, 29 Second Street, Troy

1st Thurs. Sept. thru June - N. Y. State Museum, Education Bldg., Albany

The Chautauqua County Gem and Mineral Society

Sec'y - Mrs. Lois Buck, Bear Lake Rd., Fredonia

1st Tues. 7:30 P.M. - 224 West Main Street, Fredonia

The Fulton County Mineral Club

Sec'y - Miss Catherine B. Streeter, 368 Bleecker St., Gloversville

Twice monthly, every other Mon. - Gloversville Chamber of Commerce

Lapidary and Gem Society of New York

Sec'y - Walter Stone, 721 Walton Ave., New York 51

2nd & 4th Wed. 8:30 P.M. - Hotel Paris, 752 West End Avenue

Matinecoc Gem and Mineral Society

Sec'y - Roy H. Lindsey, 36-47 Union Street, Flushing

4th Thurs. Hazeltine Electronics Corporation, 59-25 Little Neck Parkway, Little Neck, Long Island

Nassau Mineral Club

Sec'y - Mrs. Warren Milne, 1083 Tulsa St., Uniondale, Long Island

1st Mon. 8 - 10 P.M. Oct. thru June -  
North Shore High School, Glen  
Cove Ave., Glen Head, Long Island  
New York Mineralogical Club, Inc.

Sec'y - Thomas Ronan, 2436 Marion  
Ave., Bronx 58

3rd Wed. 8 P.M. - Oct. thru May -  
Room 403, Schermerhorn Hall,  
Columbia University

Northland Rock and Mineral Club

Sec'y - Mrs. Evelyn Smith, Box 461,  
Saranac Lake

2nd and 4th Thurs. 7:30 P.M. - Home  
of Members

Queens Mineral Society

Sec'y - Dr. Seymour Zeff, 53 Murdock  
Rd., East Rockaway, Long Island

4th Mon. except July & Aug. - 8501 -  
118th St., Richmond Hill

Rochester Academy of Science, Mineral  
Section

Sec'y - Mrs. Donald Cooke, 87 South-  
hampton Drive, Rochester 16

1st Thurs. 8 P.M. - Oct. thru May -  
Rochester Museum of Arts & Sci-  
ences, 457 East Avenue

Rockland County Mineral and Gem So-  
ciety

Sec'y - Mrs. Marguerite R. Collyer, 49  
Green Road, West Nyack

Last Fri. 8 P.M. except Dec. - Fink-  
lestein Memorial Library, Spring  
Valley

Syracuse Gem and Mineral Club

Sec'y - Miss Margaret I. Gibson, 120  
Highland Ave., Syracuse

2nd Fri. 8 P.M. except June, July &  
Aug. - Lyman Hall, Syracuse Univer-  
sity

Westchester Mineral and Gem Society

Sec'y - Mrs. Olive Delaney, Box 222,  
Main Station, Yonkers

3rd Thurs. 8 P.M. - County Center,  
White Plains

#### **NORTH CAROLINA**

Catawba Valley Mineral Society

Sec'y - K. Lynn Stevenson, 1821 Mel-  
vin Drive, Gastonia

4th Fri. - Temporarily at City Court  
Room, Gastonia

Charlotte Rock and Mineral Club

Sec'y - William M. Smith, 2036 East  
7th Street, Charlotte 4

3rd Thurs. 7:30 P.M. - Childrens  
Nature Museum, 1658 Sterling Road

The Highlands Mineral Society

Sec'y - Howarl B. Knight, P. O. Box  
103, Highlands

Homes of members or Museum of  
Natural History Building of High-  
lands Biological Station

Moore County Rockhounds Club, Inc.

Sec'y - Mrs. Vivian R. McKenzie, Box  
246, Pinehurst

1st Thurs. - Members homes

Piedmont Mineral Club

Sec'y - Mrs. Stella Roulhac, 1910 Madi-  
son Avenue, Greensboro

1st Mon. 8 P.M. - Greensboro Junior  
Museum

Smoky Mountain Lapidary Guild

Sec'y - Jack T. Burrus, P. O. Box 32,  
Waynesville

Every Thurs. 7 P.M. - 313 Wall Street,  
Waynesville

Southern Appalachian Mineral Society,  
Inc.

Sec'y - Mrs. Robert R. Williams, Jr.,  
107 Evelyn Place, Asheville

Field trips every two weeks on Satur-  
days during late spring, summer and  
early fall. Contact Secretary for  
schedule.

The Tri-State Rockhounds

Sec'y - Bessie Laney, Route 1, Box 97,  
Murphy

1st Sat. 7:30 P.M. - Club House in  
Brasstown

Winston-Salem Mineral Club

Sec'y - J. J. Whalen, 1112 Melrose St.,  
Winston-Salem

1st Thurs. 8 P.M. - Room 14, City  
Hall

#### **PENNSYLVANIA**

Gem City Rocks and Mineral Club

Sec'y - Mrs. D. Flick, 1803 Milfair  
Road, Erie

1st Fri. 8 P.M. - Erie Public Museum,  
356 West 6th Street

The Mineral and Lapidary Society of Pittsburgh

Sec'y - Mrs. Ruth S. Thorp, 2302 Forest Drive, Pittsburgh, 35  
3rd Fri. 7:45 P.M. except July and August, Mellon Institute, Fifth Avenue

Mineralogical Society of Pennsylvania, Inc.

Sec'y - Mrs. Florence D. Borland, 1706 Nedro Ave., Philadelphia 41  
2nd Sun. - Usually field trips as scheduled in Newsletter published monthly

Tuscarora Lapidary Society

Sec'y - Mrs. Evelyn T. Smith, 923 Stony Brook Drive, Springfield  
2nd Wed. 8 P.M. - Broomall Library, Broomall

#### **SOUTH CAROLINA**

Western South Carolina Gem and Mineral Society

Sec'y - W. J. Martin, Jr., 217 Forest Street, Greer  
2nd Mon. 7:30 P.M. - Civic Room, News-Piedmont Bldg., Greenville

#### **TENNESSEE**

Etowah Hammerhead Rock Club

Sec'y - Mrs. John Leslie, P. O. Box 73, Etowah  
1st and 3rd Tues. - Etowah Rock Club House, Etowah

#### **VERMONT**

Springfield Mineralogical Society

Sec'y - Mrs. Nelson R. Longe, 5 Leonard Avenue, Springfield  
3rd Wed. 7:30 P.M. - Home of the Secretary

#### **VIRGINIA**

Central Virginia Mineral Society

Sec'y - Mrs. Louis Gaugier, 221 Lansing Avenue, Lynchburg

3rd Tues. 7:30 P.M. - Lynchburg - place not yet determined

Gem and Mineral Society of the Virginia Peninsula

Sec'y - Mrs. Gerard J. Manack, 1200 N. Armstead Ave., Hampton  
2nd Tues. 7:30 P.M. - 3531 Chesapeake Ave., Hampton (Junior club meets same place 2nd Wed. 7:30 P.M.)

Norfolk Gem and Mineral Association

Sec'y - Warren Redford, East Bay Avenue, Norfolk 3

1st Fri. 8 P.M. - River Terrace Room, Giant Open Air Market, Compostella Road

The Richmond Gem and Mineral Society

Sec'y - Miss Frances Finnear, 402 Stuart Circle  
2nd Wed. 8 P.M. Sept. thru May - Maymont

#### **ADVISORY COUNCIL**

##### **PAST FEDERATION PRESIDENTS**

Harry L. Woodruff (1950-52) Room 1149 Munsey Bldg., 1339 E Street, Wash., D. C.

William B. Aitken (1952-53) - Deceased

Benjamin B. Chromy (1953-54) P. O. Box 21, Saratoga, California

Albert S. White (1954-55) P. O. Box 1536 Sparta, New Jersey

James H. Benn (1955-56) 9500 Flower Avenue, Silver Spring, Maryland

Henry B. Graves (1956-57) 3153 N. W. 27th Street, Miami 42, Florida

L. J. Pursifull (1957-58) 135 Hermitage Avenue, Newport News, Virginia

Mrs. Elsie Kane White (1958-59) 3418 Flannery Lane, Baltimore 7, Maryland

Sam Brown (1959-60) 40 Northview Avenue, Upper Montclair, New Jersey

## **EASTERN FEDERATION HISTORY**

**FLORENCE C. HIGHT, Historian**

(Fifth Convention continued from May-June issue)

This Promenade of the Shoreham Hotel leads to two stairways. If you go down you find the competitive exhibits. If you go up the steps you arrive at the lectures, entertainment and business meetings.

At 3 P.M. Tuesday, Mr. Neal Guffey, of Guffey Institute and Lapidary, gave an illustrated lecture on "A Trip to Brazil." He had just returned from a two weeks trip by airline. He said he had to stay at least 12 days to get his merchan-

dise duty free. The Brazilian dollar was worth  $1\frac{1}{2}$  cents of our money so the best hotels were \$7.00 a day for a couple including Continental breakfast at 10 o'clock. He was impressed with the intricate designs made with black and white stones in the city sidewalks and says the number of skyscrapers being built is amazing. He showed informative pictures of lapidary shops with Portuguese, Russian and German workers. I understood Mr. Guffey to say the German in the picture was about the only cutter in Rio grinding facets using a tin and lead lap with silicon carbide. He cuts a stone of 10 to 15 carats in about one hour.

Mr. Guffey visited the biggest cutter in Brazil and showed a picture of a hundred pound precious topaz crystal that was 12 inches high. Topaz is sold by the carat, — cheap — in Brazil. \$300 worth can be brought out free if you stay out of the States for six months. \$500 duty free for twelve months, and free if for gifts and not for sale. There is no duty on rough stones.

At 8 P.M. Dr. Frederick H. Pough, who at present is a consulting Mineralogist in New York, spoke on Gem Identification. He says gem identification is not too hard; that while there are some 1500 mineral names for the mineralogist to master, there are only about 20 stones used in jewelry, even if they are sold under many names.

To measure the refractive index you need a refractometer. The polariscope needed can be homemade, — a 50¢ light bulb, some 3-D glasses they occa-

tionally give away at movies, and a sensitive tin plate made from the wrapping off cigarettes, folded in three layers. Dr. Pough made it sound very simple. Add a microscope, plus a little knowledge and he says you can go into business.

Dr. Pough told of his problem when a dear old lady brings in a piece of heirloom jewelry that she "knows all about" but wants his confirmation. Should he tell her the stones the family have cherished are of no value? He told of spinel showing red and yellow but the synthetic spinel shows just light and dark. He spoke of the task of identifying East Indian jewelry where the stones are foil backed. Anything for effect. They sometimes use rubies and diamonds the same way. He has found rose cuts with enclosed backs. It was necessary for the Metropolitan Museum to insure the jewel studded pieces before they were loaned for exhibits. Ultra violet light helped him. He found that all the zircons in Indian jewelry fluoresce orange, the rubies red and the garnets not at all. 90% of diamonds fluoresce. Dr. Pough says a non-fluorescent diamond is extremely rare. He explained the microscopist and said the Chatham emerald is the only successful synthetic emerald made. Mr. Chatham makes about 2000 carats a month (1 bomb). If six carats are good he considers he is doing very well. Mr. Chatham has the know how and he won't patent it. Dr. Pough says if you want to make synthetic stones, silicon carbide is the stone to make.

(To be continued)

#### A NOTE ON MUD CRYSTALS

(Continued from page 449)

In this same category we may add the well-known "Sand-Calcite" crystal that occur at Rattlesnake Butte on the Rosebud Indian Reservation in southern Dakota, and a very few locations elsewhere. In this instance, the sand is fine and well-sorted, indicating active water work. In its makeup this sand has all the earmarks of quicksand, as shown by the cleanliness of the sand and the occurrence of the black grains of iron. It evidently was a pocket or at most a small area, where

the conditions that make the sand "quick" prevailed at this time the sand was accumulating. A high calcium carbonate content of the water was somehow condensed, causing the crystals to form, incorporating some 60% of sand in 40% of calcium carbonate. These are well named Sand Calcite crystals.

Hope this will be of some help.

Frank L. Fleener  
1415 Hosmer St.  
Joliet, Ill.



# Rocks and Minerals Association

(INTERNATIONAL)

## NOTES AND NEWS

DON PRESHER, PRES. BOX 146, MONTROSE, N. Y.



Vacation—so slow to arrive and so quick to depart. Early in the Spring we start to plan, and a rockhound's expectations run high if he or she plans to visit new mineral locations. Usually the expectations far exceed the net results. That is why I would like to tell you a little about my recent vacation, because it has been the exception. The results actually exceeded the expectations.

My friend and fellow member, John Mitchell of Port Hope, Ontario, Canada, had been urging me to visit Ontario singing praises about the wonderful collecting to be had in the Bancroft Area. (Now I am making it a duet.) When I saw an ad in this magazine, that the Northern Pines on Lake St. Peter catered to rockhounds and was in the Bancroft area, I decided to inquire further. After corresponding with Miss White, who operates the resort, our reservations were made.

I'll admit that I had my tongue in my cheek as it has been my experience that most localities are oversold, but it did not take long to lose my skepticism. In fact, the first day made me feel that the trip was a success when Mr. and Mrs. Ralph Pellet of McBrides, Michigan, who were also guests at the Northern Pines, (second season) invited me to accompany them on a local collecting trip. As this was their last day before leaving, they wanted to show me that what I had heard was not exaggerated and also to help me find some locations when I was on my own.

First stop was a sodalite quarry where beautiful specimens can be had by just picking them up. Next stop was a nepheline quarry along the York River, a short walk from here brought us to blue corundum location. Then crossing the river, a

short walk resulted in diopside xls and some essonite garnet. Along the road we also picked up some nice pieces of moonstone. On the way back they drove me to the MacDonald Quarry, so I would know where it was. (Rockhounds are the most accommodating people in the world).

The next day I was on my own and each succeeding day was as exciting and enjoyable as the first.

Can you imagine a place that has so many productive locations that the local club in Bancroft not only has field trips on Sundays but also on Thursday evenings? They invite guests to participate in these outings and are very helpful and accommodating. So much so that they have printed a list of local minerals and a map showing the various locations!

Miss White, of the Northern Pines, who is a member of the R&MA, the Toronto Mineral Club and the Bancroft Mineral Club, gave detailed directions, both oral and written, and also offered to guide me but with the excellent directions I did not have to avail myself of this service except when the Bancroft Club had their field trips. We topped off the Thursday evening trip with coffee and some more of the home-made wild blueberry pie which was an added bonus on this trip.

Seven days in this location is just about enough time to scratch the surface and to start you thinking about which of the locations that you missed this time will be visited next time. One week just whets the appetite, but it does supply all the specimens that your car will carry. I brought home at least 25 varieties including crystals of green and blue beryl, corundum, apatite, betafite, tourmaline,

*(Continued on page 496)*

# COLLECTING FLUORESCENT MINERALS

Conducted by ROBERT W. JONES, JR.

210 S. Rose Circle Dr., Scottsdale, Arizona

**Abbreviations:** xl—crystal

xled—crystallized

xline—crystalline

fl—fluoresces

ph—phosphorescence

There have been many theories proposed to explain the phenomenon of fluorescence and its co-property phosphorescence. To discuss all of these theories would be confusing but we should benefit by a brief sketch of the leading theory.

Fluorescence, of course, is the property of some minerals of giving off light when bombarded by ultra-violet radiation. Phosphorescence is the giving off of light by a mineral after the radiation has been stopped. Most authorities consider fluorescence and phosphorescence as co-properties stemming from the same basic cause—electron shift.

All minerals are made up of combinations of atoms which have as their basic parts a nucleus, a cloud, or rings of, electrons and other parts we need not consider. The electrons travel around the nucleus at speeds and distances based on their energy content. When this energy content is changed the electrons may shift.

Ultra-violet radiation is a form of energy, and when a mineral is exposed to it the radiation penetrates the material, striking or being absorbed by electrons within the atoms. The electrons are "knocked out" of orbit by the collision with or absorbing of this "foreign energy." This extra energy and the displaced electrons cause an imbalance within the atoms. The atoms strive to return to a balanced state and, in so doing, give off the "foreign" energy in the form of visible light. If some of the displaced electrons do not return to position until after the exciting lamp is turned off, they may give off energy that is visible, this being called phosphorescence.

This is a very sketchy description of

the theory of fluorescence. There are many good books dealing with the subject. If interested, the reader should refer to such authors as O. C. Smith, H. C. Dake, Fred Pough and many others who offer discussions on the subject which are more complete and technical.

One mineral which shows this phenomenon of fluorescence and does it well is the well-known hydrozincite. Fluorescent collectors have long been familiar with the blue color, under short wave (S.W.), of this material. Some collectors may be unaware of the fact that many specimens fluoresce weak to good yellow under long wave (L.W.), ultra-violet.

Hydrozincite is a monoclinic mineral of secondary origin, that is, it is derived from another mineral usually by the action of weathering or ground waters. The mineral from which it is derived is called a primary mineral. Hydrozincite is found associated with other secondary zinc minerals such as: smithsonite, hemimorphite, aurichalcite. It may also be associated with willenite, dolomite, cerussite, calcite, plattnerite, adamite and limonite. It is the alteration product of sphalerite and, sometimes, smithsonite or hemimorphite.

This mineral is usually found as coatings or in masses at many localities. In the United States it is found in very large amounts at Goodsprings, Nev., usually well weathered and always fluorescing a bright chalky blue under S.W. The Magdalena district, Socorro Co., N. Mex.; Tintic district, Juab Co., and Beaver Co., Utah; Cerro Gordo mine, Inyo Co., Calif.; Linden, Iowa Co., Wis.; Friedensville, Lehigh Co., Pa.; Franklin, N. J.; Mine Hill, Roxbury, Conn.; Joplin, Mo.; the Galena district, Cherokee



Co., Kansas and Marion Co., Ark., are some of the better known localities where specimens have been or are being found now.

The occurrence at Franklin, N. J. is interesting. It is forming on the dump continually and is usually associated with the popular red-fluorescing calcite. These make very attractive specimens under S.W. light since they offer a nice blue on red color. It has been reported found in association with dolomite at this locale, too.

There are many famous localities in other parts of the world, too. In Europe it is found at: Llanidles, Montgomery, Wales; Dolores mine, Udias valley and Comillas and Picos de Europe in Santander Province, Spain; Bleiberg, Austria; Raibl, Yugoslavia; Brilon, Westphalia and in Italy at Auronzo, Monte Malfidano and Buggerru, Sardinia. It is also found at Laurium, Greece, with smithsonite and adamite.

The Bleiberg material I saw recently was of very fine quality. It had been collected some years ago and only recently arrived in this country. The material is quite firm and some pieces are quite thick. The fluorescence is a characteristic blue, S.W. and a weak blue-white under L.W.

A few other occurrences of note are: Quarsenis and Bou Thaleb, Algeria; Marlara, West Kimberly district, Western Australia; and Mina Ojuela, Mapimi, Durango, Mexico.

The Mapimi locality is famous for many fine minerals and it has now added another outstanding mineral to the list. Hydrozincite is now found here in the form of fine needle-like xls, white, on limonite. Until recently hydrozincite was considered as never, or rarely ever, found naturally in crystal form. This may now be the largest single find of crystallized hydrozincite. A reasonable amount of specimens were taken out and I understand there is little if any to be found now. Of course, dealers and some museums have specimens available for sale

or inspection. I recently heard that a complete study will soon be started on the Mapimi area which, when finished, will make very interesting reading.

This crystallized hydrozincite is associated with calcite, hemimorphite and excellent plattnerite xls on limonite. The fluorescence of the hydrozincite is excellent-brilliant blue S.W. and fair to good yellow under L.W. The specimens in ordinary light are very showy, too. The black plattnerite (lead dioxide) on the white hydrozincite both of which are on the reddish limonite all help make the specimens very colorful. Specimens can be found in a variety of sizes—I have a 7x9x2 inch specimen in my collection and have seen many smaller but equally beautiful pieces available.

A word of caution should be extended here. When obtaining a specimen of this material for its fluorescent beauty be sure to choose one with a moderate amount of plattnerite since this is a non-fluorescing mineral which will tend to smother the hydrozincite upon which it is formed.

A note of thanks is due here to those readers who have expressed an interest in this new department. I might add that if you wish a reply to any comments or questions you raise in the future a self-addressed card or envelope, stamped, will be most helpful. Again, may I say, any inquiries or problems you may have are welcome.

#### **New York State Southern Tier Geology Club**

At the May 1960 meeting of New York State Southern Tier Geology Club the main feature of the evening was a geology hobby fair at which members exhibited their minerals. Refreshments were served after which a business meeting was held. It was lots of fun. Attendance 37.

The Club meets in the Johnson House, Harpur College, Endicott, N. Y., on the 2nd Monday of each month.

Eva C. Kookish, Pres.  
1 Drinker St.,  
Montrose, Pa.

## MEMORIAL TO ANDREW SNYDER

by NEAL YEDLIN

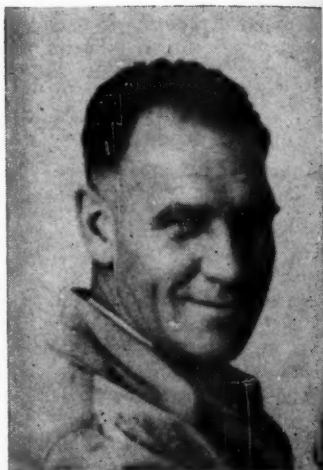
Andrew Snyder, mineral collector, gemologist and lapidary, died on July 20th, 1960, in Boston, after a severe illness that lasted six months. He was born in Cumberland, Md. in 1901, and after service with the U. S. Navy he married, in 1928, Mildred Baker, a native of Maine. In 1933 he made this state his home, and resided there until his untimely death.

Mr. Snyder will be sorely missed. He was an expert on Maine minerals. In later years he specialized in the fashioning of superb gems and hand-made jewelry, in great demand throughout the East. He was in love with the woods, fields and mountains of his adopted domain, and impatiently awaited the seasons when he could sally forth to observe and note the wild life in its natural habitat.

A member of most all of the area mineral societies, he was in constant demand as lecturer, group leader and advisor in things mineralogical.

He is survived by his wife, who will remain at her home, 19 Maple St., Randolph, Me.

I first met Andy in 1939, at a meeting of the Maine Mineralogical Association. For 3 years, the duration of my stay in the state, we were inseparable. Trips to mineral localities, to the woods for deer and trout, or just to smell the balsam and hemlock, were a constant thing. Never will I forget the journeys to Newry, Greenwood, Auburn, Mt. Mica and Topsham. Nor a club excursion to Grafton, N.H., where we took a wrong road, and obtained, at a farmhouse, more uraninite and gummite than all the others together. Nor to Chain-of-Ponds, for deer, sleeping in the open, listening to the bark of fox, the loons' cry, and the daybreak chatter of woods people around us. Nor to Pemaquid Point for lobster, with the gulls and wind and spray about us, and with the brilliant sunlight and cool breeze combining to enervate the world. Nor to our meetings with Herb Haven, Ike Skillin, Ned Leonard, Willis True, and Dick Lougee, all gone now, but a group of earnest collectors and fine gentlemen, all. Nor to his visit to me when I was on leave from the Air Force, and we sat up from 8 P.M. to sunrise, just reminiscing and luxuriating in each other's company. Nor his meeting me in Washington 2 years ago, where he went backstage at the Smithsonian to meet Switzer and Desautels, and where we subsequently visited with Sinkankas, Gerber, Halter and Campbell, at a session of the Mineral Arts Group. Nor to the Harris Farm in Virginia, with Sinkankas, to search for moonstone, and almost refighting the "War Between the States". Nor to quiet



Andrew Snyder

evenings at home, when we talked of people, things and ideas, and nightly settled the problems of the world.

These are but few of the things that were Andy Snyder. These are the things in which I was privileged to participate. These are the things I shall never forget. He was kind, gentle, generous and considerate. With his passing our lives are diminished.

### RGMA

(Continued from page 493)

eral department and is handling first quality diopside, quartz and many massive specimens.

So, as you can gather, I am completely sold on Ontario collecting and if you want a vacation to remember, right through to your next one, I recommend the Bancroft area with the Northern Pines as your headquarters. Give my regards to Miss White, Bert, Jack, Eric and the rest of the gang from the Bancroft Club in case you see them before I do.

Best of luck and good hunting.

Don Presher

## Publications Recently Received

### **SLOSS - DAPPLES - KRUMBEIN — Lithofacies Maps — An atlas of the United States and Southern Canada.**

By L. L. Sloss, E. C. Dapples, W. C. Krumbein, Professors of Geology, Northwestern University, 108 pp., 153 maps. Published by John Wiley & Sons, Inc., 440 Fourth Ave., New York 16, N. Y. . . . . Price \$5.50.

This atlas is the outgrowth of some 10 years of work by graduate students at Northwestern University engaged in regional stratigraphic studies. The majority of the maps are derived from a course in regional stratigraphic analysis directed by the three editors of this atlas.

### **HEINRICH — Some Rare Earth Mineral Deposits in Mohave County, Arizona.**

By E. William Heinrich, Dept. of Mineralogy, University of Michigan, 22 pp., 7 figs.

Published by the University of Arizona Press, Tucson, Ariz. . . . . Price 50¢ (free to residents of Arizona).

### **PEMBERTON - MOLLER - SCHWARTZ - MASIMER — The Minerals of Boron, California.**

By Earl Pemberton (Editor), William Moller (Geology), Jack Schwartz (Mineralogy), and George Masimer (Photography), 40 pp., illus. with maps, photos, and drawings. Published by the Mineral Research Society of California, Box 106, Montebello, California . . . . . Price \$1.50.

The deposit of massive, crystalline sodium borates at Boron, Calif., is the most important occurrence of borate minerals ever found in the western world. For nearly 30 years the district has supplied most of the borates in the world market, yet the known reserves of the deposit have scarcely been touched. Current production from the huge open pit is at the rate of over one million tons of crude sodium borate ore per year.

### **BICK — Geology of Lexington Quadrangle, Virginia.**

By Kenneth F. Bick, 40 pp., 1 geologic map in pocket. Published by Division of Mineral Resources, P. O. Box 3667, Charlottesville, Va.

The Lexington Quadrangle, in west-central

Virginia, is an area of 240 sq. miles most of which lies in Rockbridge County.

### **ALBANESE — Notes on the Minerals of Franklin and Sterling Hill, New Jersey.**

By John S. Albanese. This is the 4th issue (pp. 61-78) on Western Hemisphere's greatest mineral locality—the zinc mines at Franklin and Sterling Hill, N. J. Mr. Albanese has a wealth of intensely interesting notes and items on this locality as attested by his latest issue which is available from the author, John S. Albanese, P. O. 221, Union, N. J. Price 50¢.

If you like Franklin minerals you should have Albanese's 4 issues—\$2.00 for the lot.

### **List of Publications and Maps on Virginia**

Most of the items in this 27 page list are still available at prices quoted from Virginia Division of Mineral Resources, P. O. Box 3667, Charlottesville, Va.

### **DEALERS CATALOGS**

Geode Industries, 106 W. Main St., New London, Iowa, have recently issued Catalog 58-59, an 8½ x 10½ inch, 150 page, profusely illustrated publication covering the wide variety of items carried by this big Mid-Western firm. This is a very handsome catalog featuring items to tickle the hearts of mineral collectors, gem collectors, amateur cutters and jewelers, and to anyone interested in some phase of mineralogy. Price of this big catalog is only \$1.00. Order your copy today.

Fluorescent House, Beach Place, Branford, Conn., have issued a 28 page price list featuring their large variety of fluorescent minerals, books, U.V. lamps, and supplies. The front and back covers of this price list show 13 minerals in beautiful fluorescent colors. The price list sells for only 10¢ (the covers alone are worth more than 10¢). Rush your order today for this price list with its beautiful covers in color!

Mineral Lore, 3004 Park Ave., San Bernardino, Calif., have just released an attractive 26 page, illustrated catalog featuring their many items which include minerals, books, mazes, tumblers, lapidary supplies, etc. The catalog sells for 25¢ a copy.

## WITH OUR ADVERTISERS

Conducted by James N. Bourne

c/o Rocks and Minerals, Box 29

Peekskill, N. Y.

Advertisers are cordially invited to submit News Items to this Department

Roy Snyder of Snyder's Adirondack Cabins, U. S. Rt. 9, Chestertown, N. Y., informs us:

"That for the benefit of rockhounds who want to camp, I have built a 'Lean-to' complete with fireplace. The 'Lean-to' will accomodate 6 persons. We also have campsites for those who like camping.

"Also, there are many minerals to be found up in this area. I would like to have clubs come here in the Spring and Fall when I could guide them as I am a licensed guide. We have modern cabins for your convenience, coffee shop, hunting (Rifle & Archery) and other attractions. So, I'll be looking forward to meeting many of you rockhounds and upon hearing from some of the Club secretaries who would like to plan a field trip for their members."

Note: When traveling up or down U. S. Route 9 this Fall, drop in and see Mr. Snyder and arrange for an interesting stay at his Adirondack Cabins.

Advertising with R&M the past couple of issues is John H. Suther, of Suther's, 74 Brumley St., Concord, N. Carolina. Mr. Suther informs us as follows:

"I started in the Rock business in 1929 and have one of the most beautiful collections of finished stones anyone ever saw. I have also some very beautiful pieces of Jewelry.

"We wish your readers to know that we are a complete Lapidary Supply House and importers of some very beautiful stones. Send stamped self-addressed envelope for price list of stones. We have some very good faceting grade material such as amethyst, deep purple color from

Brazil; dark golden beryl from India; also deep red garnet from India; very fine fire opal from Australia; and many others of the best faceting grade."

Note: Readers will find dealing with Mr. Suther to their liking and his many years experience in the Stone and Jewelry business can only prove beneficial to those placing orders with him.

From John M. Wise, 403 North Charles St., Baltimore 1, Md., who regularly advertises in R&M, comes the following :

"After a rest of a number of years on our laurels, Mrs. Wise and I will go on a gem hunting safari starting July 31st and lasting for 6 weeks. We shall start with England, then visit our Idar Oberstein Cutting Plant where we shall supervise the carving of cameos (after photographs); next stop gay old Vienna and from there by plane wherever the wind blows; on the way we shall visit the old Austrian Danube; equipped with field equipment and 3 excellent cameras we will bring something home . . . whatever it will be exciting. At this time we sweat for the arrival of some 300 lbs. of gem chrysocolla that should be a sensation. The loot has been hidden for some 50 years!!!

"We hope this trip will be a compensation for a lot of bad luck we had recently. First Mrs. Wise had an operation that laid her off for 2 months, then our newest catalogue for which the preparations took more than 4 months was destroyed in a fire in the printing plant . . . we have no copy on hand so we have to start from the beginning; please tell your readers to have patience with us.

They will receive a copy as soon as we can have it printed again."

Note: We wish Mr. & Mrs. Wise a most pleasant trip and that good luck be theirs wherever they go. Look up their ad this issue for good buy in gem chrysocolla rough.

From Peter H. Manuel of Peter's Rocks and Minerals, 1316 Colfax Ave., Denver 18, Colo., we insert the following bit of information:

"Requests for catalogues far exceed orders. Customers are ordering listings, then we never hear from them. Please be advised that making out listings take a great amount of our time and often not one ten-cent mineral is ordered.

"I'm afraid that we will have to charge a nominal cost of 25 cents for these type written lists to compensate for time and work involved."

We received two very nice faceted aquamarines from M. Seidman, 144-06 Grand Central Parkway, Jamaica 35, New York, currently advertising regularly in R&M. Also received were 2 nice moonstone cabochons showing 4 rays. The aquamarines of nice color came from Brazil and the moonstones from India. All are over 5 carats.

Through Mr. Seidman's ad each issue of R&M, faceted aquamarines of from  $2\frac{1}{2}$  to 5 carats may be ordered for \$5.00 each postpaid & taxpaid as advertised. Mr. Seidman informs us that they are very nice and similar in quality as the two very nice ones he sent us. We thank you kindly, Mr. Seidman.

Wayne Rogers, 1440 Glencoe Drive, Arcadia, Calif., sends his latest price list to us that includes rare hard to get minerals. The minerals are not fully described so write for further details. Please include postage with orders and California residents include 4% sales tax.

Here are a few minerals from the list that will give you an idea of what may be had by writing Mr. Rogers:

'Wolframite, France; germanite, South West Africa; dawsonite, Algeria; sylvan-

ite, Transylvania; placer gold, Russia — specks in vial; stibnite, Japan; albandite, Mexico; plus others."

Note: Many other minerals are included in the price list but we lack space for mention. Contact Mr. Rogers for any particular minerals you may desire to purchase as he has hundreds of others in stock which may include those you need.

S. C. Ralys, 265 West River Street, Orange, Mass., currently advertising in R&M has sent us the following for insertion.

"Micro-mounters are welcome to come and see the aragonite crystals that we have. This material has been described as superb by a well know micro-mounter. Although we are not specializing in micro-mounts we feel that these crystals are worthy of a place with collectors who want fine specimens. With the many other fine minerals we also carry books, picks, magnifiers, gold pans and mineralights.

"Nothing but the best has pleased us for our own collections and in the same way we will try to offer the most interesting material to collectors. When in Orange you can also stop to see parachuting which goes on every day and especially active on week-ends. The World Parachuting Olympics will be held here in Orange, Mass., in 1962."

Note: When traveling through Orange, Mass., readers may stop in and see Mr. Raly's aragonite crystals and then later see the parachuting for a day well spent.

Thomas H. Webb, Box 95, Linville, N. C., informs us that he still has some beautifully colored sandstone left as per his classified ad page 424 of our July-Aug. issue. A note from Mr. Webb reads:

"The beautifully patterned sandstone from Carter County, Tennessee is a rarity indeed. There was only a very small pocket of this material and the supply has been completely exhausted, however I was able to get several pieces and am offering them for sale until I run out. Everyone should have a piece of this sandstone in his collection as it is very showy."

Edward C. Vail, of Vail's Motor Court, Chester, Vt., is advertising in this issue of R&M the fact he has his Motel and Mineral Shop up for sale.

So if there are any of our readers desiring to go in business for themselves and who would like a change of climate such as beautiful Vermont, by all means contact Mr. Vail.

Bert C. Cole, the Coles, 551 S. W. Coast Highway, Newport, Oregon are accepting inquiries through Box TC, c/o Rocks and Minerals, Box 29, Peekskill, N. Y., as to the sale of their business which consists of minerals, gemstones, fossils, carvings, artifacts etc. Note their ad this issue in the display section for further details.

Mr. Cole has been in the business a good many years and for reasons of health would like to lighten his burden somewhat by going into a little less active end

of the business. Mr. Cole has built up a wonderful reputation over the years and is eager to aid the new owner in getting started into learning the business.

Robert G. Gillman of the Lost Cave Mineral Shop, Hellertown, Pa., is advertising this issue of R&M 2 new tumblers they are handling: 1st — the Kiva 'Gismo' tumbler selling for only \$24.42 with motor.

"The 'Gismo' is a precision built tumbler, priced economically for the person getting started in the fascinating hobby of gem polishing and designed to give tumbling performance at any price. Get one for yourself or as a gift for friend.

"2nd — the Kiva Lapidary Tumbler called 'the 49er'. This tumbler is priced at \$49.94 without motor and we believe is the finest lapidary tumbler made. Note our ads in R&M this issue for more details on the tumblers and other items we handle."

## THINKING ROCKHOUNDS

Are you one of the many thinking Rockhounds, who do not belong to any Mineral or Lapidary Club? Then you are the one for The Rollin' Rock Club, Inc. You can meet an RRC? We have a news-letter that comes out some foreign countries.

Do you want a certain mineral or gem stone to trade for? Contact an RRC Member. They have it. Looking for information for a certain mineral locality, one of our RRC Members can help you find it.

Do we have politics, cliques, meetings? NO. We have one national meeting and that is for election of officers. If three of the RRC members can get together we have an unofficial meeting. It's more to get to know each other. How do we know what is going on in the RRC? We have a news-letter that comes out six times a year. Boy, we can hardly wait for an issue to come out. You should see some of the cartoons. Only a thinking Rockhound can dream them up. That's where an RRC fits in.

For the Rockhounds who want to get on the thinking Rockhound bandwagon, Michael F. Kidzus, Supreme Vice. Pres. of the Eastern Seaboard of the RRC Inc., of T.A.A.O.S.O.-CO.TW, has appointed the following Ambassadors to represent their states. If you wish to join, contact your state Ambassador for information.

### AMBASSADORS

- MAINE — Mrs. Eve Leland - P. O. Box 63, Round Pound (Harbor)  
VERMONT — Harold C. Patch - Pleasant St., East Hardwick  
NEW HAMPSHIRE — Robert Y. Stiles - Raymond  
MASSACHUSETTS — William A. Davis - 69 Park St., Andover  
NEW YORK — Allen Stoiber - 136 Davidson Ave., Buffalo 18  
NEW JERSEY — Nat Grossman - 30 Colfax St., South River  
PENNSYLVANIA — Wilford A. Beveridge - 206 North Broad St., Nazareth  
MARYLAND — Robert E. Meintzer - P. O. Box 524, Ridgely  
VIRGINIA — R. W. Harman - 135 Main St., Box 126, Tazewell  
NORTH CAROLINA — Fred O. Scroggs - Box 24, Brasstown  
GEORGIA — Gilbert W. Withers - 1405 West Paces Ferry Road, Atlanta 5  
ALABAMA — John H. den Boer - 303 Park Blvd., Sheffield  
ENGLAND — Mrs. D. M. Mavis - 96 Oxhey Ave., Watford - Herts - Oxhey - United Kingdom  
CANAL ZONE — Mrs. Mary F. Worley, Box 133, Diablo Heights  
CANADA — Grant G. Thompson, 425 Churchill Ave., Ottawa 3, Ontario



## VISITING ROCKHOUNDS WELCOME

The following subscribers would be delighted to have rockhounds call on them when passing through their cities. If any one else wants his name added to the list, just let us know.

- Bill & Alta Aulsebrook, 1/4 mile west of Hwy 7 on Lake Hamilton at the "Pretty Point" turn sign, Hot Springs, Ark.
- John & Clara Roder, Hwy 7 North, 6 miles from downtown Hot Springs, Ark.
- CWO Vernon R. Braun, 9004 Rosewood Drive, Sacramento 19, Calif.
- Mac & Maggie McShan, 1 Mi. west on Hy. 66, Needles, Calif.
- O. A. Reese, 806 E. Boulder St., Colorado Springs, Colo.
- F. J. Strah, Buena Vista, Colo.
- Mr. & Mrs. Stephen Ridell, 228 S. Center St., Windsor Locks, Conn.
- William Guild, Director The Science Center, St. Petersburg, Fla.
- P. W. Holstun, 5235 Attleboro Ave., Jacksonville 5, Fla.
- Miss Marion McEntire, 349 N. Elm St., Commerce, Ga.
- James T. Fulton, 829 N. 18th, Coeur d'Alene, Idaho
- Anthony Gricius, 4426 Montana St., Chicago 39, Ill.
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- Ralph Dugan, 1338 Franklin St., Columbus, Ind.
- Walter Reeves, R 3, Greencastle, Ind.
- Susan Tranter, 2 E. Walnut, Sharpsville, Ind.
- Mrs. Bryce Allen, Box 486, Tribune, Kans.
- John Burmeister, Preston, Iowa.
- Maj. Raymond Prueitt, on U. S. 42 at Sligo, Ky. (mail-Sulphur, Ky.).
- Larry Davis, 617 East Ave. B, Hutchinson, Kans.
- Homer & Alice Horn, 815 Miami St., Hiawatha, Kans.
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- Raymond J. Crisp, 9 Gilletts Lake, Jackson, Mich.
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- James B. Moore, West St., Antrim, N.H. Phone 154
- Edward R. Loveland, Delsea Drive, Pitman, N. J.
- Mr. & Mrs. Rudolph Arp, 99 Mountainside Terr., Clifton, N. J.
- Michael F. Kidzus, 23 Ravine Drive, Matawan, N.J.
- Vernon Haskins, Curator, Durham Center Museum, East Durham, N.Y.
- James R. Ferguson, 21 Half Moon Lane, Tarrytown, N.Y.
- Mary H. Sandford, Long Lane Hampton Bays, L.I., N.Y.
- Mr. & Mrs. Waldo Blair, 1777 E. 31st St., Lorain, Ohio
- Edward B. Thomas, 26 John St., Owego, N. Y.
- Don Presher, Kings Ferry Road, Montrose, N. Y.
- Richard C. Johndy, Cascade Road, Lake Placid, N. Y.
- Egbert McElroy, RFD 1, Box 3, Monroe, N. Y.
- Thomas W. Carroll (age 16), 101 N. Chestnut St., Mount Olive, N. C.
- Herby Bolik, 26 Wilson Drive, Morganton, N. C.
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- Randolph E. Caney, 3rd 21 Lancaster Ave. West Springfield, Mass.
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## ANY OTHER COMMENT?

CHEROKEE, N. C. AP — On the wall in the tribal headquarters of the Eastern Band of Cherokee Indians there is a framed placard with this comment:

"Before the white man came to this country there were no taxes, and the women did all the work. How can the white man improve on that?"

No answer to the question appears, but we have one. White man gave us mineral collecting.

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## Heart of Connecticut Show Whopping Success

The Heart of Connecticut Gem and Mineral Show Committee announces their first show a whopping success. So much so that plans have already begun for next year's show. The committee has many new features in the works, which will be announced in future issues.

An estimated 1,400 persons attended the two-day show, coming from many states, New York, New Jersey and Connecticut being especially well represented. It was estimated that over 400 persons participated in the field trips to local collecting areas. The most popular by far was Mt. Tom in Moodus where gem beryl was collected. Other field trips were conducted to the old Case Quarries in Portland, Connecticut.

The large electronic display map of Connecticut mineral localities was a big hit with the adults as well as the small fry, and the push-button lights designating the various localities were kept continually flashing.

Mr. Elliot Kimball lectured on and demonstrated crystal growth. He was very well received, as was the colored sound film, "Diamond is Forever".

Eighteen officers of various New England clubs attended the Presidents' Meeting Sunday morning, and tentative plans were made for facilitating collecting in various club areas. All agreed to meet again next year.

Door prizes were announced every hour from 1 P.M. until closing. All door prizes not claimed at the close of the show were mailed to the winners. Following is the list of winners: Edith Michel, Kearny, N. J., Owen G. Parsons, Amsterdam, N. Y., Elizabeth Willis, Stamford, Conn., Richard Bacon, New Britain, Conn., Frank Conrad, Bristol, Conn., Shirley Parsons, Amsterdam, N. Y., Sidney Kanter, Clifton, N.J., Meg Bradley, Somers, Conn., Scully, Naugatuck, Conn., M. Wordsworth, South Hadley Falls, Mass., Dr. E. R. Denison, New London, Conn., R. E. Cooper,

Brooklyn, N. Y., Dean Markham, East Hampton, Conn., H. E. Engel, Clifton, N. J., Hazel Williams, Hartford, Conn., Pamela Wages, Hazardville, Conn., Steve Corse, East Meadow, N. Y., S.J. Nadolny, New Britain, Conn., Mrs. L. Nichols, Higganum, Conn., and Freeman Bridgman, Northampton, Mass.

We are holding a door prize for "Jackie". If he or she will please send us his or her full name and address, as well as the ticket stub number, we will forward the prize. It will be held until the first of November.

It is desired by the committee that anyone dissatisfied with his or her accommodations, please contact either Mrs. Robert P. Gallant, Box 32, Moodus, Connecticut, or Mr. Lewis K. Moore, 19 Stony Point Road, Clinton, Connecticut, stating reason for complaint, and these accommodations will not be listed next year.

Credit and thanks go to the following for helping to make the show such a wonderful success in its first year:

For being our guest of honor: Mr. Peter Zodac

For lecturing and assisting: Mr. Elliot Kimball

For assisting and conducting Presidents' Meeting: Mr. Charles W. Wight

For exhibiting: Mr. David M. Seaman, Wesleyan University, Rockland County Mineral Club, especially Ed Howard, New Haven Mineral Club, Mr. Michael Grieco, Shore Line Mineral Club, Middlesex County Mineral Club, and Mr. Klaus Albrecht, who also assisted.

For assisting: Mr. William Moreau, Mrs. Elliot Kimball, Mr. Lee Parades, Mr. Gerald LePage, Miss Georgette DeBlois, and Mr. Robert Ulm.

Jean G. Moore, Secretary  
19 Stony Point Road  
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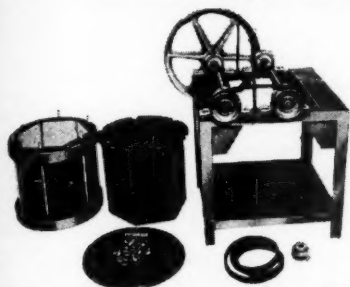
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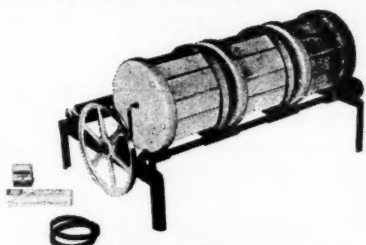
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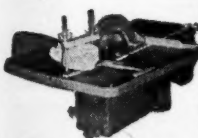
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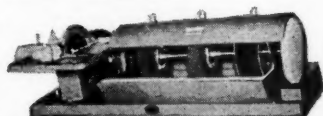
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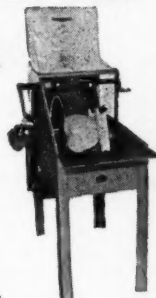
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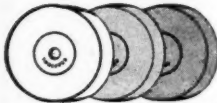
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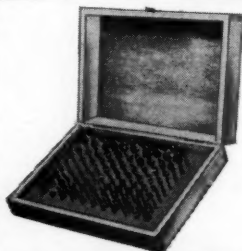
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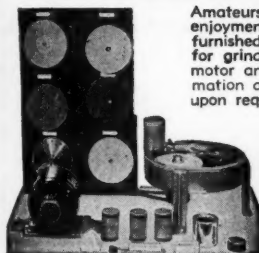
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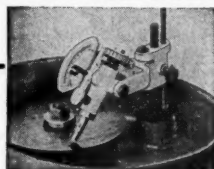


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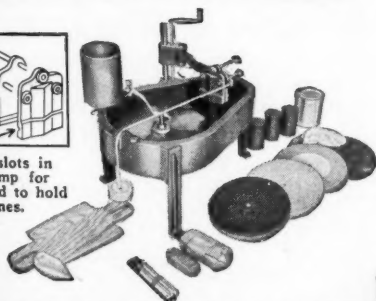
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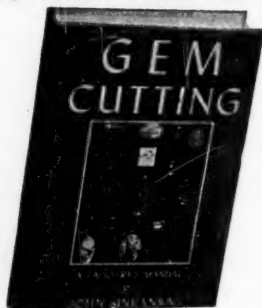
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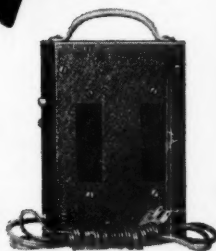
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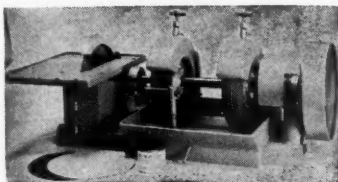
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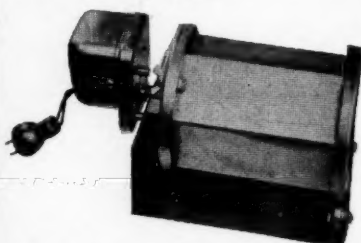
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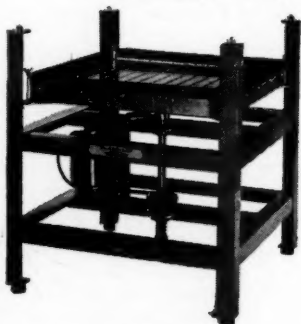
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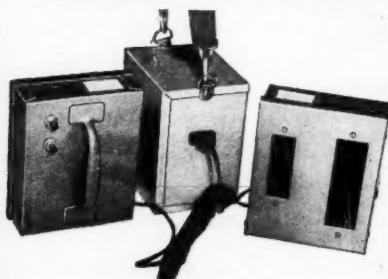
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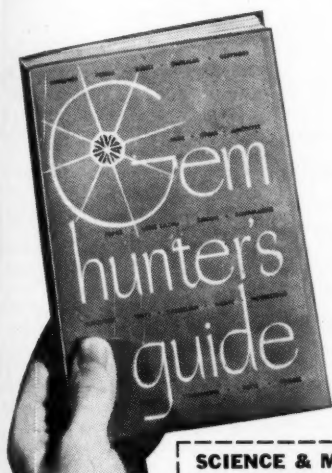
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**DAINTY SEA SHELLS**, many varieties, splendidly preserved in smooth fine grained rock that was formed on an Ancient Beach in what is now Western Washington. Hundreds of individual shells to the cubic inch in hand crafted Geometrical and Baroque shapes.

Cabinet Specimens Three Dollars to Ten Dollars plus Parcel Post. See "Beauty from Ooze", page 472, this issue **ROCKS and MINERALS**. Your pleased satisfaction guaranteed.

Frank H. Waskey - Oakville, Washington

**PETOSKEY STONES**—Any size or quantity \$1.00 per lb. Beautiful dark eyed ones \$2.00 per lb. plus postage. Also polished specimens & jewelry. Petoskey slabs 35¢ per inch. We pay postage on all \$15.00 orders. Frank A. Fisher, 607 - Seventh, Jackson, Mich.

**FOSSILS**—15 classified \$2; 15 Pennsylvanian \$2.50; 15 Permian \$2.50; 15 Ordovician \$2.50; 15 Devonian \$2.50; 50 classified \$7.50; Mammal teeth, bones, plants; everything in fossils; send postage. List—Pioneer Museum, Burnet, Texas.

**TRILOBITES** — (Phacops) \$1.00 and up. Fossil collection, 9 different specimens mounted on attractive card, each identified \$1.25. Ten different brachiopods \$1.50. Gastropod and pelecypod 35¢ each. Three different corals 75¢ per set. Don H. White, Box 181, Ottawa Lake, Mich.

**WYOMING MATERIALS**—Fossil fish, \$2.00 a fish for first five or \$1.50 a fish when five or more are bought. Turritella 40¢ lb.—100 lbs. 20¢ lb. Petrified wood, 25¢ and \$1.00 lb. Palm wood pieces 40¢ lb.—\$1.00 lb. whole pieces. Steve J. Jackovich, 1030 Arapahoe St., Rock Springs, Wyo.



## FOSSILS

**THE FOSSIL BOOK**—With each order for this magnificent book by the Fentons at \$12.50 we will send a collection of 10 different fossils free. Both postpaid. Geological Enterprises, Box 926, Ardmore, Okla.

**FOR SALE (TEXAS RED CRINOID FOSSIL ROCK)**—You will have to see it to appreciate its value. Will send samples on request. Please add 50¢ to cover postage. Tom Ellis, R.#1, Box 108, Crowley, Texas.

## GEMSTONES

**OPALS, BRILLIANT COLORS**—Direct from mine, 15 for \$5.00. 10 ringsize cabochons (opal, amethyst, onyx, etc.) \$5.00. P. Kendall, Apartado 80, San Miguel De Allende, Gto. Mexico.

**1960 CATALOGS SENT ON REQUEST**—These list over 1,000 cut gems. Stones of all types available on 10-day approval and satisfaction is absolutely guaranteed. See our ad on page 520. INTERNATIONAL IMPORT COMPANY, 128 N. Parkwood Drive, Forest Park, Ga.

**EVENING EMERALD** — For August. Top facet grade or tumbled with high quality polish. Beautiful green peridot by carat, pound, or oz. Cutting chrysocolla, \$6.00, \$8.00 and \$30.00 lb. Tumbling chrysocolla \$3.00 lb. Bornite, the best, \$1.00 lb. Fluorescent common opal, \$2.50 lb. Chrysocolla silica specimen, \$6.00 lb. Flos-ferri xls, \$2.00 - \$3.00 - \$5.00 and \$10.00 each. Georgia's Rock and Shell Garden, 549 E. Cedar, Globe, Arizona.

**RARE, CUT GEM STONES**—Modest prices—lovely variety. Blue faceted sapphires, faceted rubies, cat's eyes, black star sapphire, blue star sapphire. Approvals gladly made to clients. New clients please give references. A. G. PARSER, INC., 54 West 46th Street, New York 36, N. Y.

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**SPECIAL OFFERS**—Genuine black star sapphires, from 10 to 65 ct. stones at \$1.00 ct. Ovals. Fine faceted andalusites, Brazil, 4½ to 5mm stones at \$3.00 ea. Blue zircons, emerald cut from 1 ct. to 5 ct. stones at 75¢ ct. Titania boules 25 to 50 ct. at 50¢ ct. Slightly cracked corundum & spinel boules, 100 ct. for \$2.50. (Multi color or blue tiger eye, aventurine, fine moss, Utah jet, large clear Brazilian quartz, crazy lace, plume agate) at \$2.00 lb. ½ pound of fine golden rutilated quartz or caxenite in amethyst, shattuckite, bloodstone for \$2.00. Add tax & P. P. Prompt service. Shale's, 9226 W. Pico Blvd., Los Angeles 35, Calif.

**FACETED GEMS AND CABOCHONS**—Am offering surplus from my collection at reasonable prices. Many rare & regular items. Correspondence invited. E. E. Joachim, 1710 Inverness Ave., N. E. Atlanta 6, Georgia.

**GENUINE GEM RING STONES**—Ready for mounting. Twelve assorted \$10.00. Gem beads necklaces 18" graduated 7mm. Pink ruby \$30.00, blue sapphire \$25.00, moonstone \$25.00, light green emerald \$12.00, iolite \$15.00, purple garnet \$10.00, brown \$7.00. Faceted garnet \$12.00, smoky topaz \$15.00, crystal \$8.00, tigerstone \$8.00, aventurine, bloodstone, carnelian any \$5.00. Agate \$3.00, stone cabochon samples \$2.00. Agate spheres, dozen \$3.00. Many lists included. MOTIWALA, Third Bhoiwada, 38RM, Bombay 2, India.

**SPECIAL GEM MATERIAL** — 4 different kinds from our mines for small saws for tumbling. Will make hundreds of cabs and baroques. 100 lbs., shipped, mixed, \$5.50, FOB Barstow, Morton Minerals & Mining, Dept. R, 21423 Old Highway 66, RFD 1, Barstow, Calif.

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## GEMSTONES

**OPALS AND SAPPHIRES DIRECT FROM AUSTRALIA**—This month's best buy: 1 ounce white red opal, 1 ounce transparent green blue opal, 1 ounce brown pinfire opal matrix, all 3 ounces for \$18.00. Send personal check, international money order, bank draft. Free 16-page list of all Australian gemstones, Australian Gem Trading Co., 49 Elizabeth Street, Melbourne, Australia.

**MEXICAN AGATE, POUND PRICES**—Bird of Paradise, cathedral, naica vein, blue nodules, coyamito nodules, red spiderweb - \$1.75; psilomelane, lace, or tumbling amethyst - small 90¢, large \$1.50; laguna, moctezuma, mixed nodules - small \$2.50; FOB. Postage Please. Write list other materials. LITTLE GEM SHOP (Ray Lenhoff), 529 Cedar St., S. E., Albuquerque, New Mexico.

## MINERALS

**LABRADORITE WITH TINY GARNETS** — Have 500 lbs. From Adirondacks. Price \$2.00 per pound. No slabs. This is in rough. Robert B. Stewart, Apt. 32, "Y" Bldg., Wassaic State School, Wassaic, N. Y.

**MEXICAN CUTTING MATERIAL SPECIAL** —Package #2: 2 lbs. psilomelane (gem), 2 lbs. purple vein, 2 lbs. laguna pieces, 2 lbs. tree agate white and black (opalite). \$11.00 postpaid. Gorins' Gemarts and Rocks, 3315 Tyler Avenue, El Paso, Texas.

**NATURAL PLACER GOLD** — Nuggets and grains. Excellent yellow color, coarse texture, ideal for jewelry or specimens. \$3.00 D.W.T. Money orders only. Better price on mine run unsorted gold in quantities. Snowshoe Trout Ranch, Avon, Montana.

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**WYOMING AGATES**, 10 sq. ins. \$4.00. County location and name on each slice. Please include postage. Free list and one sq. in. jade with order. Rawhide Rock Shop, South 85, Lusk, Wyo.

**QUARTZ CRYSTAL**—Unusual groups and doubly terminated crystals. Extra fine specimens. On approval. Claude A. Smith, Box 291, Geneva, N. Y.

**BRIGHT COLORED FLUORESCENTS** — Highly fluorescent willemite and calcite from Franklin, N. J. Each piece contains several different minerals. 50¢ per pound plus postage. Julia Kowal, R.D. 2, Goshen, N. Y.

**TOURMALINES AND BERYLS**—Fine terminated crystals from Brazil. Green and blue-green tourmaline, 1/2" x 1" \$2.00 each. Pink \$5.50. Beryl, light blue-green 1/2" x 1" \$3.00 each. Tax and postage paid. Robert Eaton, 34 Heberle Rd., Rochester 9, N. Y.

**HEMATITE** — Tumble polished during the Cretaceous Period; 1/4 ounce to 40 pound baroque. \$5.50 per pound. Lake Superior Agate \$2.50 per pound. All FOB Hibbing. Con Peterzen, Hibbing 6, Minnesota.

**CHRYSOCOLLA**—Very attractive specimens, with black ore inclusions. \$1 per oz., \$9 per pound, some pieces up to 3 pounds available. Exceptional value, limited supply. Nutt Agate Co., Kingston, New Mexico.

**APACHE TEAR DROPS**: Beautifully polished, smoky, translucent! \$3.55 pound prepaid. (Approximate size range - one-fourth inch to one inch.) Satisfaction guaranteed. Sample tear 25¢. Western Jewelry, Box 2563, Phoenix, Arizona.

**FALL MINERAL SELECTIONS** — Specials - Chrysotile asbestos, layers in green serpentine, Arizona. 1"x2" to 3"x3", 50¢ - \$2.00. Erythrite, cobalt bloom, Mexico. Rose pink coating on and through matrix. 1"x1 1/2 to 2"x2 1/2", 50¢ - \$1.50. Many other fine crystals. All sent postpaid. Free price list. Satisfaction guaranteed. Red Wing Company, Rte. 2, Box 25A, Parker, Colo.

**GENUINE WHITBY JET** — "Blue John" fluorite, Cumberland hematite, Cornish serpentine. \$10 parcel postpaid. N. Deane. Mounts Rd., Wednesbury, Staffs, England.

## MINERALS

**NATIVE IRON** — Extremely rare. Limonite coated 5c grain avoirdupois, 6c clean. Dollar minimum order. J. F. Abate, 834 El Camino Real, Mountain View, Calif.

**BY POPULAR DEMAND**, am making a new 25 specimen thumbnail card, plus beautiful surprise crystal, 50c. Starter or beginner sets, \$1.50, postpaid. NO LISTS. Emily Bettey, 139 Hale St., Winchendon, Mass.

**ASTERIATED ROSE QUARTZ (Georgia)** — \$2.50 lb., Virginia unakite \$1.25 lb., Georgia banded travertine 75c lb., massive epidote \$1.25 lb., purple jasper with epidote \$1.00 lb., Apache tears "smoky topaz" rough \$1.00 lb., snowflake obsidian \$1.00 lb. Specimens—drusy quartz on quartz crystals, 2x2, 75c, sea green foliated talc 50c lb., pink Georgia marble 50c Please add postage. List & corundum crystal 25c coin. Geo. Brown, Box 535, Gainesville, Ga.

**VANADINITE, AVOGADRITE, KUTNAHORITE, WAGNERITE** — And 860 other mineral species and varieties in stock for the amateur and advanced collector. Catalog—10c Allen's, Dept. S, 322 W. 23rd., So. Sioux City, Nebraska.

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**LOUISIANA LAPIDARY & SPECIMEN MATERIALS**—Louisiana banded & fortification agates, selected \$2.25 per lb. Petrified wood \$1.00 lb., opalized palm slabs \$2.00 ea. Nine items collection all different from Louisiana, including silicified coral and agates, postpaid \$3.00. Ken Kyte, Box 161 or 530 E. Boston St., Covington, Louisiana.

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**ADVANCED COLLECTORS** — 741 species and 124 varieties of minerals in stock. Can also obtain many others. Write your wants. We trade. Catalog—10c. Allen's, Dept. D, 322 W. 23rd, So., Sioux City, Nebraska.

**IN MIAMI, FLORIDA**—Visit the Rock & Shell Shop, the complete Rock Shop. We have lapidary equipment supplies, rough and slabbed gem materials. Mineral specimens, mountings and jewelry. Agatized coral our specialty. Sorry, no catalog. Rock & Shell Shop, 2036 S.W. 57th Ave. (Red Rd.), Miami 44, Fla. Visitors always welcome. Geo. & Mildred Williamson.

**EXCEPTIONAL VALUES** — Regular \$1 lb. iridescent, rainbow sheen obsidian now just \$15 per 100 lbs., FOB Myrtle Creek, Oregon while supply lasts. Also morrissonite \$1 lb.; thundereggs 50c lb.; fireball red calcite (fl. red, s.w.) 75c lb.; sunstones \$3.50 ½ lb., \$6 lb. All above plus postage. Obsidian needles 25¢ each; Emerald Creek, Idaho garnets, 15 for \$1, both pp. \$2 minimum order please. The Prospectors, Rt. 1, Box 260-A, Myrtle Creek, Oregon.

**COLLECTORS ITEMS** — September-October only. Mexican apatite xls, terminated, faceting quality ¾ - 1 inch, \$1.15 each. Terminated gemmy golden Brazilian topaz xls, ¾ - 1 inch, \$1.10 each. Tax and postage paid. Specialty Minerals, Box 228, Edison, New Jersey.

**SCOTT'S ROSE QUARTZ CO.**—Rose quartz and many other Black Hills rock specimens of various kinds and colors for Rock Gardens, Cabinet collections etc. Attractively boxed specimen collections, labeled and mounted, including informative list, in several sizes. Send 4¢ stamp for price list. 1020 Custer Avenue, Custer, S. Dakota.

**CONNECTICUT MINERALS AND SPECIMENS FOR SALE**—Beryl, rose quartz, tourmaline, spodumen, quartz crystals and many others. Pappy's Beryl Shop, open Thursday through Sunday 9 A.M. to 7 P.M., opposite White House Motel, Rt. 6A, East Hampton, Conn.

**COLEMANITE XLS** — Beautiful cabinet specimens from \$2.50 to \$20.00 postpaid. Jean's Minerals, 23201 Grandview, Chatsworth, Calif.

**CHOICE MINERAL SPECIMENS**—Hisingerite - 2x3", \$1.00, \$2.00, \$3.00. Cinabar - pure 2x3" \$9.00, 3x3" \$10.00, \$5.00. Fluorite xl groups - 4 x 5" \$9.00, 4x4" \$9.00. Rhodonite var/fowlerite xls 3½x4¾" \$35.00, stibnite-fibrous to acicular xls. 3x3" \$13.50. Peters Rocks and Minerals, 1316 East Colfax Avenue, Denver 18, Colorado.

## MINERALS

**TURQUOISE FOR SALE**—Turquoise in the rough priced at from \$5 to \$50 a pound. Royal Blue Mines Co., Box 646, Tonopah, Nevada.

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**OZARKITE**—5 lbs. for \$3.50 p.p. Tripoli for carving, 60 lb. p.p. Tri-State minerals. Maple Leaf Rock Shop, Route 1, Stratford, Mo.

**NICE SPECIMEN OF ALBITE** — From the Adirondacks. Approximately 400 pounds. \$1.00 per pound. R. B. Stewart, Apt. 32, "Y" Bldg., Wassaic State School, Wassaic, N. Y.

**UNAKITE**—also epidote with red feldspar. Good quality slabs, 35c square inch. Miller, P.O. Box 7115, Washington 4, D.C.

**GOLD NUGGETS FROM SHASTA CASCADE WONDERLAND** — In glass vials beautifully magnified, \$2.00 per vial. Lester Lea, Box 942, Mt. Shasta, Calif.

**IOWA GEODES**—Found in the Mississippi Valley. Matched halves one dollar per inch up to 5 inch diameter for choice specimens. Marcasite, calcite or pyrite in the quartz xl lined cavity. Maurice Lamb, Niota, Illinois.

**ROCKS, MINERALS, WHOLESALE ONLY**—Write for new list and prices just out. 36 years experience with minerals. Wilbur J. Elwell, 2 Duck St., Danbury, Conn.

**DIAMONDS:** Thousands of fine xls. available. All sizes from small perfect xls. for micro mounts to large perfect xls. for specimens and cutting, from 75¢ each to \$20.00 per ct. Lapidabrade, Inc., 2407 Darby Road, Havertown, Pa.

**BEAUTIFULLY TUMBLED—POLISHED OCEAN AGATE AND JASPER**—\$2.50 per pound postpaid. Polished Apache Tears from Arizona, \$3.00 per pound pd. Olympic Agate Shop, Rt. 3, Box 56, Gig Harbor, Wash.

## MISCELLANEOUS

**SALT LAKE CITY, UTAH**—Drop in when out this way. A complete lapidary equipment, supplies, findings, rough Australian opal, Spec-Tec Blacklights, etc. No catalog. Will give a sample of oolite sand from the shores of Great Salt Lake, plus a circular giving directions to Utah locations to those who drop in and ask for some or enclose a stamped, self addressed envelope with inquiry. Ken Stewart's Gem Shop, 136 West South Temple, 1/2 block west of Temple Square, Salt Lake City, Utah.

**SPECTROSCOPE** and illustrated, cloth instruction Book for quick ore and mineral analysis \$7.00. Cutting Scope Co., 875 Arastradero, Palo Alto, Calif.

**ALPHA-COUNTER**—For immediate positive detection of radioactive ores. Guaranteed to operate wherever alpha particles are present. Operates with all uranium minerals. \$9.25 post paid. Breeders Equipment Co., Flourtown, Pa.

**ADIRONDACK MT. ROCK HUNTING?** Purple red, garnet - blue apatite xls., colorful labradorite - hedenbergite etc. Club field trips accommodated and guided. Modern cabins - Lean To - Tent Sites - Coffee Shop - Mineral Shop. Deer - bear - bird hunting. Rifle & Archery. Write or phone Roy Snyder, Adirondack Cabins, Illustrated guide, U.S. Rt. 9, Chestertown, N. Y. - 2420.

**QUALITY BOXED & CARDED GEMSTONE JEWELRY** — Dealers only, one in each town, send tax No. and \$2.00 or \$5.00 or \$10.00 for sample order. Full refund in samples returned 10 days. Ace Sales Co., 221 Green St., Landsdale, Pa.

**REOPENING THE OLD GOLD FIELDS OF THE SOUTHEAST** — "Appalachian Gold" is a complete guide and handbook to the placers of Va., N.C., Ga., Ala.—Illustrated throughout—\$2.00. "Appalachian Gold," Erwin, Tennessee.

**CHRISMAN'S ON U.S. 90, LONG BEACH, MISSISSIPPI** — Gems, Cutting material, and fine mineral specimens. By appointment - Phone: Un. 3-7065.

## MISCELLANEOUS

**NAVAJO LAND** — Glen Canyon Trading Post, Page, Arizona, on U.S. 89. Vacation Hqts. for Bryce & Grand Canyons, Zion Nat. Park, Monument Valley, Rainbow, Nevada & Glen Canyon Bridges on Colorado River. Indian Crafts, Souvenirs, Rock Shop & large fluorescent display.

**CUSTOM FACETING**—Of precious stones, cabochon and gem repairs. All work done by Master Craftsman. 25 years to the trade. R. Reis, 3829 West 66th St., Chicago 29, Illinois.

**DEALERS**—Write for wholesale price lists on our fabulous line of non-tarnishing aluminum chains and findings. If you include \$1.00, samples will also be sent. Please include your tax number with letter. R. B. Berry & Co., 5040 Corby St., Omaha, Nebr.

**SEND FOR OUR LATEST LISTS WITH PICTURES**—Featured are both flat caps and bell caps, jump rings, ear rings, key chains, bow pins, alligator tie bars, cufflinks, adjustable shank rings, pine cone cement, jewelry cards, cultured pearls, tie tacks, and twenty different kinds of bracelet and necklace chains including aluminum and flat bracelets for cementing. Mineralights and tigereye twins. Also eight different kinds of tumbled gems, besides cabs, catseyes, rainbow tear drops and pearl shell drops. Retail and wholesale. Special gift shop list available. Lists are free. Mail address: M. W. Avery, 332 Columbia Blvd., Woodridge, N. J. Business Address, Dale Lyn Jewelry, 224 Main Street, Hackensack, N. J. Open every day except Wednesday. Open all day Saturday.

**UNBELIEVABLE!** Pocket-size detector. Locate metallic mineral deposits, rare beryl, gold in placer, and buried pipes. Satisfaction guaranteed, \$3.00 postpaid. Shoffner's, Box 335, Hamilton, Montana.

**ANNOUNCEMENT TO DEALERS & SUPPLIERS**—The Coles', "Nationally known", for fine gemstone, minerals, Indian artifacts, specimens, collectors items, etc. are now offering wholesale service and prices on several items. More will be constantly added for wholesale purchasers. Dealers invited to send their names for present and later offerings. Suppliers information on materials, etc. invited, if priced so we can WHOLESALE to others. The Coles', 551 S.W. Coast Hiway, Newport, Oregon.

## MISCELLANEOUS

**A NEW STORE IN HACKENSACK, N. J.**—In stock are Mineralights, barques, neck and bracelet chains, cements, cufflinks, tie bars, cabochons, bell caps, keychains, cultured pearls, etc. Open weekdays and Saturdays. Dale Lyn Jewelry, M. W. Avery, Proprietor, 224 Main St., Hackensack, N. J. Phone HUBBARD 9-6282.

**GEMOLOGIST**—H. E. Chelf, Connoisseur of Gems & Minerals. 3710 N. Harmon Ave., Peoria, Illinois. Warsaw Geodes & So. Ill. fluorite.

**MEXICAN CUTTING MATERIAL SPECIAL**—2 lbs. sagenite lace, 2 lbs. crazy lace, 2 lbs. black plume (also fls.), 1 lb. bird of paradise, 1 lb. nodules, \$10.00 postpaid. Tax included. We sell at wholesale to bona fide dealers. Send for price list. Gemarts and Rocks, 3315 Tyler Avenue, El Paso, Texas.

**OUTSTANDINGLY ATTRACTIVE BRACELETS**—#409 has nine different polished gemstones hanging from chain. #410 has ten stones mounted flat on chain. Individual display card identifies and gives source of each stone. \$2.50, tax and postage included. Matching necklace \$3.50. Dealers and jobbers—We manufacture a complete line of baroque gemstone jewelry which is especially successful in the souvenir and novelty trade. Inquiries welcome. GEO-GEMS, 17953 Duncan Street, Reseda, California.

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**COLORADO IGNEOUS ROCKS**—Complete your Rock and Mineral collection with eighteen geologists samples, classified, information, chart. All for two dollars postpaid. Satisfaction or refund. Edward Oler, 3017 Stuart Street, Denver 12, Colorado.

**PROSPECTOR'S PICK**—Forged steel 8 1/2" head. Lightweight hickory handle. \$3.50 postpaid. Breeders Equipment Co., Flourtown, Pa.



## MISCELLANEOUS

**THE PRICE IS RIGHT**—For the Mineral Collector, lapidary, rockhound, jewelry maker at Lost Cave Mineral Shop, Hellertown, Pa. Open every day and evening 8 A.M. - 10 P.M. Terrace 8-8767. See other adv. page 522, 525.

**CRYSTAL SIFTING SCREEN PLANS**—Instructions, using hints. 24" set, 20" set, 18" set. \$1.50 for one set, \$2.50 any two, \$3.00 all three plans. Three interlocking screens each plan. Order by size. G. Gordner, 18 Fulton Street, Owego, New York.

**ORIGINAL ROCKHOUND CAR PLATES** — \$1.00 each. Dealer discount. Agatized coral, 2 lbs. \$2.50, polished halves \$1.00 up. Crystals. Postpaid. Roder's Coral Museum, R 7, Hot Springs, Ark. 6 miles out north 7.

**ATTENTION ADVERTISERS**—When figuring cost of a classified ad, be sure to include our name and address.

**HERKIMER & ARKANSAS "DIAMONDS"** —Red garnets, golden apatites, selenites, gold, silver, sapphires, pyrites 10 for \$1.00. Ellenville crystal clusters 25c up. Fluorescent rainbow rocks 40c lb. 5 lbs. free with Mineralight. Large mineral collection for sale 50c lb. Postage. Monroe Mineral Store, Lake Road, Monroe, New York.

**LOCATE GOLD!** Four different rocks containing fine gold, \$1.00. Instructions, 10¢. Powerful microscope, \$2.00. Postpaid. Gold, 5330 College Avenue, Oakland, Calif.

**ATTENTION GIFT & CURIO BUYERS**—First quality tumbled stone jewelry, preform and baroque style. Substantial discounts given for quantity purchases. Dealers & jobbers write for free price list. Red Wing Co., Manufacturing Jewelers, Rt. 2, Box 25 A, Parker, Col.

**ROCKHOUNDS' HAVEN MOTEL & ROCK SHOP** — Within day trip distance of several collecting localities. Local minerals, fossils, jewelry, etc. Route 301, 10 miles south of Delaware Memorial Bridge, P. O. Address R.F.D. 1, Bear, Del.

**BUILD YOUR OWN "LITTLE GEM TUMBLER"**. Complete plans to build and operate an inexpensive tumbler with capacity from one to fifteen lbs. See picture in our display ad (p. 522). Send \$1.00 to Bouton's Lapidary, 9475 El Camino Real, Atascadero, Calif.

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**OBSIDIAN - NEVADA** — Obsidian slabs, black 5" \$1.00, brown 4" \$1.00, postpaid. Pinon Rocks, Rt. 2, Box 150 A, Bishop, Calif.

**MEXICAN TUMBLING MATERIAL SPECIAL**—Package #3: 5 lbs. eye agate beans, 5 lbs. crazy lace, 5 lbs. nodule pieces, \$12.00 postpaid. Gorins' Gemarts and Rocks, 3315 Tyler Avenue, El Paso, Texas.

**ST. LOUIS:** Visitors Welcome; Ozark Mtns Field trip information; phone HA. 7-4358 for directions to shop. Fine quality Gem rough & Mineral specimens. Free list. Charles M. Ozment, The Vellor Co., P.O. Box 44, (RM), Overland, St. Louis 14, Mo.

## SAND

**GOLD BEARING BLACK SAND FROM SHASTA CASCADE WONDERLAND** — Contains gold (Au), magnetite (Fe<sub>3</sub>O<sub>4</sub>), Ilmenite (Fe Ti O<sub>3</sub>), and other heavy minerals. These samples are untreated placer mining concentrates. 7 grams per vial. \$2.00 each. Lester Lea, Box 942, Mt. Shasta, Calif.

**START SAND COLLECTION**—50 different sands, many States, nifty collection, 3 dr. envelopes. \$5.00 postpaid. Glen E. Kiser, Douglass, Kansas.

**250 VARIETIES SAND, U. S. and Foreign.** Want to trade for minerals, particularly t-n's, not cutting stuff. Glen E Kiser, Douglass, Kansas.



## MINERAL SPECIMENS

### Apophyllite From Brazil

Rarely is there enough interest on the part of the Brazilian miners to save anything but gem minerals. These specimens, however, from a single tunnel cut in Rio Grande do Sul, were so outstanding that they could not be ignored. They are among the finest and largest Apophyllites ever found. The locality has been depleted, and our supply represents the last of these specimens from the source.

Matrix specimens - 3x3" to 10x15", a few with individual xls 2" on an edge. Some are pale green, most are colorless and are associated with Stilbite. Prices \$4.50 to \$100. each. We invite inquiries or inspection at our office.

**QUARTZ**, "Japanese Twin" xls. on matrix w. Calcite 4x2 Pregraten East Tyrol, Austria \$8.00.

**ADULARIA**, xld., coated w. Chlorite. 2 1/4 x 2 1/4 Sustenhorn, Kanton Uri, Switzerland. \$4.50.

**CERUSSITE**, fine xld mass 3x2 1/2, Flux Mine, Patagonia, Arizona. \$12.50.

**MARTITE**, xld. 1 1/4 x 3/4. Twin Peaks, Utah. \$1.50.

**WULFENITE**, transparent orange xls. on matrix. 3x2. Mexico. \$3.50.

**VANADINITE**, minutely xld. on matrix. 3 1/2 x 3. Mexico. \$4.00.

**ORPIMENT**, xl. on matrix. (Recemented) 3x2 1/2. Mercur, Utah. \$4.00.

**DIOPHASE**, xld. mass 1 1/4 x 1. Moyen Congo, Fr. Equatorial Africa. \$7.50.

**MIMETITE**, well xld. on matrix. 1 1/2 x 1 1/2. Tsumeb, S.W. Africa. \$5.00.

**SMITHSONITE**, botryoidal xlline mass. 1 1/2 x 1. New Mexico. \$2.00.

**TARBUTITE**, xld. on matrix. 2 1/2 x 1 1/2. Broken Hill, Rhodesia, Africa. \$7.50.

**CELESTITE**, loose xl. 1 3/4 x 1 3/4. Yate, Gloucestershire, England. \$1.50.

**TARNOWITZITE**, xld. mass. 3 1/2 x 2 1/2. Tsumeb, S.W. Africa. \$7.50.

**CUPRITE, VAR. CHALCOTRICHITE**, on matrix. 4x1 1/2. Bisbee, Arizona. \$3.50\*

**HYDROCERUSSITE**, in matrix. 4 1/2 x 3 1/2. Higher Pitts Mine, Somerset, England. \$3.00.

**CELESTITE**, group of xls. 3x2 1/2. Yate, Gloucestershire, England. \$4.50.

**SPHENE**, loose xl. 1/2" Habachtal, Salzburg, Austria. \$1.00.

**MALACHITE**, loose xl. pseudo. Azurite. 1 1/2 x 3/4. Bisbee, Arizona. \$4.00.

**PHOSGENITE**, single xl. w. Galena. 1 1/4 x 7/8. Monte Ponì, Sardinia. \$8.50.

**REINITOITE**, superb xls. on matrix. 4x2 3/4. San Benito Co., Calif. \$37.50.

**PAPAGOITE**, xlline veins in matrix. 2 1/2 x 2. Ajo, Arizona. \$4.25.

**CUPRITE**, xld. w. Copper. 2 1/4 x 2 1/4. Bisbee, Arizona. \$2.50.

**CERUSSITE**, fine retic xld. mass 1 3/4 x 1 1/2. Mammoth Mine, Tiger, Arizona. \$3.75

**CERUSSITE**, fine xld. mass. 2x1 1/2. Mammoth Mine, Tiger, Arizona. \$6.50.

**DOLOMITE**, group of very fine large xls. 4 3/4 x 3 1/4. Eagle Mine, Gilman, Colo. \$9.50.

**NATIVE GOLD**, richly xlline on rock. 1x5/8. Tonopah, Nye Co., Nevada. \$19.00.

**SYLVANITE**, richly xld. in rock. 2 1/2 x 1 1/2. Cripple Creek, Teller Co., Colo. \$17.50.

**CALAYERITE**, richly xlline in rock. 2 1/4 x 1 3/4. Cripple Creek, Teller Co., Colo. \$10.00.

**NATIVE GOLD**, pseudo after Calaverite, on rock. 2x1. Cripple Creek, Teller Co., Colo. \$4.50.

**PYRITE**, extremely fine xld. mass. 3 1/2 x 3. Eagle Mine, Gilman, Colo. \$9.00.

**AZURITE**, well xld. w. Malachite. An "Old Timer". 4 1/2 x 3 1/2. Bisbee, Arizona. \$30.00.

\* Too fragile to ship. Must be examined at our office.

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## MINERAL SPECIMENS

<b>HALITE</b> - Fine transparent colorless xls free of matrix. Sicily	\$ 3.75
<b>HEMIMORPHITE</b> - Pseudo after Calcite. Rare. Joplin, Mo.	4.50
<b>BARITE</b> - Rare blue xls on matrix. 2"x2 1/2". Sterling, Colorado	4.75
<b>HEMATITE</b> - Shiny black xls on Quartz xls. Cumberland, England. 3"x6"	4.75
<b>FLUORITE</b> - Nice yellow xls on galena. Getting scarce. 2 1/2x2 1/2. England.	3.50
<b>WITHERITE</b> - Fine xls on matrix. 2 1/2"x4". Rosiclair, Illinois.	5.00
<b>CALCITE</b> - Fine colorless xls on matrix. 2 1/2x4 1/2. England (Cumber.)	7.50
<b>CINNABAR</b> - micro-botryoidal on rock. 2 1/2x3 1/2. Felsőbanya, Hungary.	3.50
<b>SMOKY QUARTZ</b> - Fine gemmy large xl. Minas Gerais, Brazil. 3"x7"	13.50
<b>HEMATITE</b> - Fine xls with Quartz xls. Elba, Italy. 3"x4"	10.00
<b>PYRITE</b> - Rare octahedral fine single cube xl. 2"x2". Elba, Italy	8.50
<b>GOLD</b> - on chrysocolla & rock. 1x1 1/4. Witlach mine, Helena, Montana.	5.00
<b>BERYL</b> - Gem pink compound xl. (MORGANITE). Brazil. 3"x5 1/4	30.00
<b>SPHALERITE</b> - Very fine xls with fine Quartz xls. Illinois. 3 1/2x5	12.50
<b>CALCITE</b> - Very fine twinned xl. Biggig, Egremont, Cumberland, England	2.50
<b>PYRITE</b> - Very fine single cube xl. 2"x2". Elba, Italy.	8.50
<b>GALENA</b> - Fine xls on chert matrix. 1 1/2x2 1/2. Joplin, Mo.	2.00
<b>CALCITE</b> - Unusual xls with fine Albite xls. Canton Uri, Switzerland	6.00
<b>QUARTZ</b> - Unusual xls on sandstone. 3 1/2x3 1/2. Brazil (Minas Gerais)	5.00
<b>EPIDOTE</b> - Very fine large xls & Quartz xls. Prince of Wales, Alaska	11.00
<b>REALGAR</b> - Very fine rare xls on matrix. 1 1/4x2. Mercur, Utah	6.50
<b>SELENITE</b> - Fine doubly terminated xl. 1 1/2x3 1/2. Naica, Mexico	2.25
<b>QUARTZ</b> - Unusual rutiled rose quartz xl. 3x3 1/2. Mexico	4.75
<b>FLUORITE</b> - Fine light purple color. 2 1/2x3. Cumberland, England.	3.50
<b>QUARTZ</b> - Unusual-A xl inside a stalactite, Switzerland. 3"x4"	5.50
<b>MALACHITE</b> - Very fine pseudo after Azurite xls. 2 1/2x3. S. W. Africa	12.50
<b>KYANITE</b> - Fine blue xls w. Staurolite in Paragonite schist. Switzerland	8.80
<b>QUARTZ</b> - Fine rare Citrine xl. 3/4"x1". gem grade. Spain	4.50
<b>TETRAHEDRITE</b> - Xls w. Quartz & Sphalerite. 2 1/2x3. Kapnick, Hungary	5.00
<b>TOPAZ</b> - Gem grade xl. Lt. Brown Color. 2x2 - 1/2x1. Facet grade. Brazil	23.50
<b>CALCITE</b> - Unusual xls in portion of geode. Hamilton, Illinois	3.75
<b>PYRITE</b> - Fine xl group. Getting scarce from Leadville, Colo. 2 1/2x3	7.50
<b>BARITE</b> - Fine golden-brown xl on matrix. 2x2 1/2. Bad Lands, S. Dakota	4.75
<b>VANADINITE</b> - Fine shiny xls on matrix. Apache Mine, Arizona. 3x4 1/2	15.00
<b>HALITE</b> - Fine twin xl. Transparent colorless. 3x3. Racalmuto, Sicily	4.50
<b>SELENOSULFUR</b> - Rare amber brown xls on rock. Girgenti, Sicily. 3x3	8.50
<b>SPODUMENE</b> - Gemmy green xl. Minas Geraes, Brazil. 1x3 1/2	8.50
<b>AMETHYST</b> - Very fine shiny xls with Aragonite xls. Rare. Gurera, Mexico	5.00

## GEM CRYSTALS

<b>DANBURITE</b> - Switzerland. Gemmy colorless xls.	1.50
<b>GARNET</b> - Fine sing'e xls. Idaho. Many are star material.	1.00 - 3.00
<b>AQUAMARINE</b> - Gem quality xls with very nice terminations. Brazil.	7.50
<b>AMETHYST</b> - Geode sections of nice qual. xls. Brazil. Prices on request.	
<b>RUBY SPINEL</b> - single 5mm xls. ruby red color. Burma.	1.00
<b>CHRYSOBERYL</b> - Choice twin xls. Madagascar.	1.00
<b>ARAGONITE</b> - Fine single xls. Purplish color. Molina de Aragon, Spain.	1.25
<b>SAPPHIRE</b> - Fine xls. Unusual from Bahia, Brazil.	1.25
<b>PYRITE</b> - Fine single xls. 1/2" to 3/4" average.	1.00
<b>EMERALD</b> - Genuine green xls from Colombia. average 1/4".	1.00
<b>SAPPHIRE</b> - Gemmy xls average. 1/2". Ceylon.	1.00
<b>PREFCIOUS TOPAZ</b> - Xls. Gem quality xls. Imperial color. Brazil.	1.00
<b>RUBY</b> - Perfect form. New locality in India. Approx. 1/2"	1.00
Some larger at 2.50 - 3.50 - 5.00	
<b>GARNET</b> - Very large green xls from Mexico. Large for this local	2.50
<b>DIAMOND</b> - Angola. Fine complete xls. Approx. 2-3mm. Assted Colors	1.50 - 3.00
<b>GARNET</b> - Almandine type. Single compound xls free of matrix. Ft. Wrangle, Alaska.	1.00 - 3.50

## R. C. ROMANELLA

IMPORTER - COMMERCIAL MINERALS CORP.

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NEW YORK 36, N. Y.

# ROUGH AND FACETED STONES

**RARE FACETING QUALITY OPAL** from Brazil. Beautiful orange-yellow color. Each piece is clean for faceting. We have cut some of this material and it is beautiful when finished. Approx. 5 gram pc. \$7.50. 10 to 20 gram pcs. @ \$1.25 gram. One rare size (30 grams) \$30.00.

**RARE CATS-EYE BLUE AQUAMARINE ROUGH** from Madagascar 11.70 grams \$12.50.

**RARE COLORLESS GOSHENITE BERYL ROUGH** from Madagascar, faceting quality, approx. 15 grams ea. @ 35c to 50c gram.

**IOLITES**, nice blue, approx. 5 m/m, Burma. @ \$3.50 ea.

**AMETHYST**, "standard size" 9 x 7 m/m oct. excellent color, flawless \$4.50 ea. or pr. for \$8.00.

**MORGANITES & PEACH COLOR BERYLS**, Madagascar, approx. 5 m/m round, \$2.50 ea. 7 m/m rd. \$5.00 ea.

**WHITE PRECIOUS TOPAZ with a tinge of BROWN**, from Burma, large sizes - 8 m/m \$2.50 ea. 10 m/m \$3.50 ea. 12 m/m \$4.50 ea.

**GOLDEN ZIRCONS**, SIAM, 4 to 5 1/2 m/m \$1. to \$2.50 ea. Also blues and whites - same price.

**MOONSTONES**, Ceylon, blue-white sheen, 8 m/m \$2.50 ea.

**ENSTATITES**, Burma, "RARE" nice brown color, 5 m/m round \$7.50 ea.

**GARNET HEARTS** cabs "MADE IN CZECHOSLOVAKIA" excellent quality, lively 7 x 8 m/m Pair \$1.25.

**GENUINE PEARLS**, baroque type - assorted colors (set of 7 different colors - \$5.00) or \$1.00 ea. approx. 5 m/m.

**SAPPHIRE ROUGH - LIGHT BLUE** - faceting quality, Ceylon, 5 ct. pcs. \$3.00 ct.

**NICE MOONSTONES** from India. "Have a 4 ray star" white or yellow, excellent cutting, 7 to 15 cts ea. @ 50c ct.

**FACETED AQUAMARINES**, Burma, stones have an odd blue-green color and are very unusual from this location. \$3.50 to \$4.50 ea.

**PERIDOT**, round, excellent color and cutting, approx. 4 to 5 m/m. \$4.50 to \$5.50 ea.

**RARE - SIAM RUBIES** - finest red color, excellent cutting, squares 3 m/m \$4 ea. or 2 for \$7.00. Larger at \$7.50 to \$10.00 ea.

**GOSHENITE BERYLS**, faceted round brilliants (rare when colorless) from Brazil - 2 for \$1.50.

**LIGHT BLUE SAPPHIRES** "diamond cut" 52 facets, approx. 2 m/m \$1.00 ea. Larger \$3.50 ea.

**FINE PINK SAPPHIRE**, Ceylon, a lively brilliant stone of a peculiar color, very interesting, 8 x 6 m/m cushion, 2.35 cts. \$32.50.

**FINE GEMMEY EMERALD CRYSTALS**, Chivora Mine, Colombia. Each xl. is clear and transparent, very brilliant, approx. 3/8 inch. These are of faceting quality. Priced according to size and quality - \$2.50, \$3.50, \$5.00.

**FACETED EMERALDS** from India - round brilliants - lively stones 3 m/m \$2.50 ea. Larger sizes \$3. to \$4.00 ea. How can you miss at these prices?

**RARE GREEN QUARTZ**, Bahia 10 x 8 m/m oct., very interesting - \$5.50 ea.

**PERIDOTS** - excellent for specimens and cutting, average 5/16 inch, polished special price \$2.00 per oz. or 2 oz. for \$3.00.

**ROUND BLUE SAPPHIRES**, Burma, excellent cutting, approx. 3 1/2 m/m \$2.50 ea.

**ROUND FACET D RUBIES**, Burma, approx. 2 m/m round, excellent cutting \$2. ea.

**SPHENES**, Switzerland, fine quality - rare, approx. 3 1/2 m/m rd. brill. cut excellent collector's item - \$22.50 to \$25.00 ea.

**FACETED GREEN TOURMALINES**, Brazil, rounds - \$2.00 ea.

**ROUND FACETED AMETHYST**, 6 m/m - \$1.00 ea.

**ROUND FACETED AQUAMARINES**, approx. 6 m/m - \$2. to \$2.50 ea.

**FINE GARNETS**, orange red, Madagascar, 5 1/2 m/m round faceted - \$2.00 ea.

## SPECIAL - ROUGH STAR RUBY

"DIRECT FROM OUR AGENT IN SOUTH INDIA"

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ALSO AVAILABLE AT DEALER DISCOUNTS.

## GENUINE STAR SAPPHIRE ROUGH

from Ceylon. Each piece is selected showing silk that will have excellent possibilities of cutting stars. Sizes average 4 to 5 cts. ea. Price for 2 pieces \$3.00. Larger selected pieces \$3.50 ea. If you have wanted rough star sapphire, here is your chance at a most reasonable price. Remember! each piece is selected, so chances of getting a star are excellent. Colors: gray, white and blue-gray.

**GENUINE ORANGE GARNETS**, Brazil, first grade, approx. 5 m/m - \$2.00 ea.

**RARE ZINCITE**, Franklin, N. J. - Special at \$10.00.

**ORANGE CITRINES**, approx. 6 to 7 m/m round - \$1.00 ea.

**RARE COLORLESS APATITE**, from Burma, round - approx. 6 m/m - \$7.50 ea.

**AMBYGONITES**, Brazil, finest quality, light yellow, average 5 m/m round \$5.50 ea.

**FACETED ROUND BLUE MONTANA SAPPHIRES**, approx. 3 m/m - \$2.00 ea.

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**POSTPAID** ANY 10 FOR \$1.50 — ANY 50 FOR \$6.00 — ANY 100 FOR \$10.00

All specimens are approximately 1" in size, except as noted. Each specimen is fully labeled as to name of mineral, major associates and locality. Each is wrapped individually with its label.

### GROUP NO. 1—MINERALS OF ECONOMIC INTEREST—70 Specimens for \$7.00 postpaid!

Aautunite	Azurite	Bentonite (in Vial)	Cerussite	Pentlandite
Talc	Kyanite	Hausmannite	Cinnabar	Rhodochrosite
Beryl	Realgar	Amblygonite	Hematite	Anglesite
Borax	Alunite	Vermiculite	Chromite	Malachite
Halite	Cuprite	Bastnaesite	Stibnite	Magnetite
Pyrite	Bornite	Smithsonite	Ilmenite	Collophane
Sulfur	Braunite	Sillimanite	Columbite	Chalcocite
Quartz	Enargite	Molybdenite (in Vial)	Diamondite	Polyhalite
Galena	Smaltite	Arsenopyrite	Magnetite	Pyrolusite
Gypsum	Cryolite	Tetrahedrite	Spodumene	Sphalerite
Barite	Goethite	Hemimorphite	Celestite	Andalusite
Bauxite	Limonite	Strontianite	Scheelite	Chrysotile
Calcite	Fluorite	Wollastonite	Carnotite	Garnierite
Brucite	Orpiment	Chalcopyrite	Covellite	Lepidolite

### GROUP NO. 2—GEMS AND MINERALS—\$7.14 postpaid, including F. E. Tax on \*D items (70 specimens) \*Add 10% F. E. Tax to specimens marked with asterisk \*

Rose Quartz	Jadeite*	Ruby Corundum - 1/5" Crystal	Axetyst*	Bloodstone*
Franklinite	Opal*	Monazite (Sand in Vial)	Bakerite	Turquoise*
Stibiconite	Trona	Agatized Dinosaur Bone	Burkeite	Purpurite
Chrysocolla	Hawthite	Topaz* - 1/4" Crystal	Jarosite	Jasp Agate
Psilomelane	Ilvaite	Grossularite Garnet*	Siderite	Antigorite
Piedmontite	Martite	Indian Moss Agate *	Allanite	Norberite
Conicalchalcite	Kernite	Andradite Garnet*	Selenite	Vanadinite
Dumortierite	Ulexite	Golden Tigereye*	Willemite	Aventurine
Scapolite	Idocrase	Dendritic Agate	Rhodonite	Forsterite
Hydrozincite	Inderite	Opalized Wood*	Allophane	Pyrrhotite
Aphthitalite	Pricelite	Hydromagnesite	Wulfenite	Colemanite
Smoky Quartz	Spurrite	Nephrite Jade*	Witherite	Mariposite
Clinozoisite	Mimetite	Meyerhofferite	Marcasite	Jasp-Opal*
Pyrophyllite	Zoisite	Petrified Wood		Schefferite

### GROUP NO. 3—ROCKS AND ROCK FORMING MINERALS—\$7.02 postpaid, including F. E. Tax (70 specimens)

Tourmaline*	Alabaster	Calcite - Satin-Spar Type	Albite	Microcline
Orthoclase	Diorite	Blue Calcite	Slate	Nepheline
Greenstone	Epidote	Cummingtonite	Chert	Natrolite
Actinolite	Biotite	Anthophyllite	Flint	Tremolite
Travertine	Granite	Jasper Breccia	Chalk	Limestone
Oligoclase	Perlite	Graphic Granite	Tuffa	Anorthoclase
Serpentine	Apatite	Siliceous Sinter	Basalt	Sandstone
Anthracite	Diopside	Oolitic Hematite	Marble	Omphacite
Glaucouite	Andesine	Almandine Garnet*	Gabbro	Anorthite
Barkevikeite	Alurgite	Obsidian (Flowering)	Pumice	Quartzite
Glaucophane	Dolomite	Olivine (Chrysolite)	Augite	Anhydrite
Labradorite	Bronzite	Wonderstone (Rhyolite)	Dacite	Muscovite
Mica Schist	Andesite	Fused Radioactive sand	Aplite	Kaolinite
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ITEM NO.	MATERIAL	ORIGIN	UNITS	SHAPE	PRICE
GP-312	Translucent Light Green Jadeite	Burma	2 sq. in.	Slab 1/4"	2.00
GP-322	Mottled Green Jadeite	Burma	2 sq. in.	Slab 1/4"	1.50
GP-332	Jet	Utah	Approx. 3 cu. in.	Rough	.60
GP-342	Lepidolite	Africa	3-oz.	Rough	.60
GP-352	Lepidolite	Africa	3 sq. in.	Slab 1/4"	1.10
GP-362	Moerschum	Turkey	Approx. 3 cu. in.	Slab Rough	.60
GP-372	Moonstone Assorted Color	India	2-oz.	Rough Piece	2.00
GP-382	Blue-Shell White Moonstone	India	3-oz.	Rough	1.00
GP-392	Pink Morganite	Brazil	2-oz.	Rough	2.50
GP-402	Gold Sheen Obsidian	Mexico	3-oz.	Rough	.60
GP-462	Catseye Quartz	Brazil	3-oz.	Rough	1.00
GP-472	Prase Quartz	Australia	3-oz.	Rough	1.00
GP-482	Prase Quartz	Australia	3 sq. in.	Slab 1/4"	1.10
GP-492	Prase Quartz	Brazil	3-oz.	Rough	1.00
GP-512	Buttled Golden Quartz	Brazil	2-oz.	Rough	1.50
GP-522	Buttled Golden Quartz	Brazil	2 sq. in.	Slab 1/4"	1.50
GP-532	Buttled Silver Quartz	Brazil	2-oz.	Rough	1.30
GP-542	Buttled Silver Quartz	Brazil	2 sq. in.	Slab 1/4"	1.20
GP-552	Buttled Smoky Quartz	Brazil	2-oz.	Rough	1.20
GP-562	Buttled Smoky Quartz	Brazil	2 sq. in.	Slab 1/4"	1.20
GP-572	Rhodochrosite Brown	Argentina	3-oz.	Rough	.60
GP-582	Rhodochrosite Pink and Red	Argentina	3-oz.	Rough	1.50
GP-592	Rhodochrosite Pink and Red	Argentina	3 sq. in.	Slab 1/4"	1.50
GP-602	Pink Rhodonite	Australia	3-oz.	Rough	.70
GP-102	Green Moss Agate	India	3-oz.	Rough	1.00
GP-112	Green Moss Agate	India	3 sq. in.	Slab 1/4"	1.20
GP-122	Red — Green Moss Agate	India	3-oz.	Rough	1.20
GP-132	Red — Green Moss Agate	India	3 sq. in.	Slab 1/4"	1.50
GP-182	Bloodstone	India	3-oz.	Rough	1.50
GP-192	Bloodstone	India	3 sq. in.	Slab 1/4"	1.50
GP-202	Light Chirine	Brazil	1-oz.	Rough	1.50
GP-12	Amazonite	So. Africa	3 sq. in.	Slab 1/4"	1.50

ITEM NO.	MATERIAL	ORIGIN	UNITS	SHAPE	PRICE
GP-612	Pink Rhodonite	Australia	3 sq. in.	Slab 1/4"	1.00
GP-622	Fine Red Rhodonite	Australia	3-oz.	Rough	1.00
GP-632	Fine Red Rhodonite	Australia	3 sq. in.	Slab 1/4"	1.50
GP-642	Rose Quartz	Brazil	3-oz.	Rough	.80
GP-652	Rose Quartz	Brazil	3 sq. in.	Slab 1/4"	1.10
GP-662	Asteroid Rose Quartz	Georgia	3-oz.	Rough	1.00
GP-672	Asteroid Rose Quartz	Madagascar	3-oz.	Rough	1.00
GP-682	Ruby Corundum	Africa	1 sq. in.	Slab 1/4"	2.00
GP-692	Ruby in Chrome Diopside	Africa	Approx. 1 cu. in.	Rough	.50
GP-702	Ruby in Chrome Diopside	Africa	1/2 cu. in.	Rough	1.00
GP-722	Smoky Light Quartz	Brazil	3-oz.	Rough	1.00
GP-732	Medium Smoky Quartz	Brazil	3-oz.	Rough	1.50
GP-742	Dark Smoky Quartz	Brazil	3-oz.	Rough	2.00
GP-752	Black Marion Smoky Quartz	Brazil	3-oz.	Rough	1.20
GP-802	Red Tigerseye	Africa	3-oz.	Rough	1.00
GP-812	Red Tigerseye	Africa	3 sq. in.	Slab 1/4"	1.20
GP-882	Green Tourmaline	Brazil	2-oz.	Sections of Crystals	2.00
GP-892	Pink Tourmaline	Brazil	2-oz.	Sections of Crystals	2.00
GP-902	Mixed Tourmaline	Brazil	2-oz.	Sections of Crystals	1.50
GP-912	Green Tourmaline	Mozambique	2-oz.	Sections of Crystals	1.50
GP-922	Watermelon Tourmaline	Mozambique	2-oz.	Sections of Crystals	1.20
GP-932	Paleographic Red Agate	Africa	3 sq. in.	Slab 1/4"	1.20
GP-942	Turquoise	Mexico	2-oz.	Rough	2.00
GP-992	Aventurine	India	3 sq. in.	Slab 1/4"	1.20
GP-1002	Aventurine	India	2-oz.	Rough	1.00
GP-252	Almandine Garnet	India	1-oz.	Crystal	2.00
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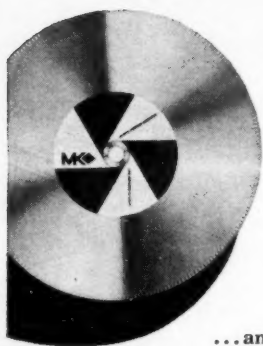
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